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ABSTRACT

This report of a project to design a set of training guidelines for planning, managing, and evaluating cooperative education programs describes briefly the procedures used in developing the guidelines and model; discusses the various components of the planning, management, and evaluation process; and presents guidelines and criteria for designing an evaluation component and subsequent training workshop. The report is intended to be useful to local education agency project staff involved in planning, managing, and evaluating cooperative education programs. There are nine chapters in the report: (1) A discussion of the need for training in program planning, management, and evaluation, (2) a description of the procedures used in the project to identify and examine a number of cooperative education programs nominated as being exemplary by State education agencies, (3) discussion of planning and managing education programs in general, (4) examination of special problems in planning and managing cooperative education programs, (5) review of basic models (student outcome, program process, and policy evaluation models) for evaluating special programs and projects, (6) presentation of the evaluation model developed by the project and suggested for cooperative education, (7) guidelines for planning and management components of cooperative programs, (8) guidelines for the evaluation model components, and (9) format, guidelines, and sample materials for a training workshop on the model. (Volume II, bound separately, contains appendixes: Materials on project management, objectives, evaluation, and followup collected from the exemplary programs that were examined as background for developing the model.) (HD,

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VOLUME I

FINAL REPORT

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MODELS AND PROCEDURES FOR IMPROVING THE PLANNING, MANAGEMENT, AND EVALUATION OF COOPERATIVE EDUCATION PROGRAMS

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PROJECT ABSTRACT

The objective of this project was to design a set of training guidelines for planning, managing, and evaluating cooperative education programs. In addition, a set of guidelines and criteria for designing a evaluation component and subsequent training workshop are described.

The design specifications of the procedures build upon general education planning, management and evaluation models developed by the Center for the Study of Evaluation, (UCLA); Education TURNKEY Systems, (SPEMS); and portions of models or components developed and applied in a limited number of cooperative education programs which were nominated as being exemplary by SEAs.

Even though existing report is initial phase of a three phase study (development and field test application), report will be useful for LEA project staff involved in planning, managing, and evaluating cooperative education programs; will assist in developing staff training in directly related areas; and will assist new LEA staff as orientation information.

Topics covered in materials include: Need for Training; Description of Exemplary Programs; General Planning and Managing techniques for Special Projects; Problems in Planning and Managing Cooperative Education Programs; An Evaluation Model for Cooperative Education; Evaluation Model Components.

ACKNOWLEDGEMENTS

In developing this Report (two volumes) on Models and Procedures for Improving the Planning, Management, and Evaluation of Cooperative Education Programs, the principal investigators wish to acknowledge key individuals as well as groups who contributed measurably to this overall effort.

We appreciate the assistance and timely responses of both state education officials and officials in districts nominated as exemplary cooperative education programs which provided a good baseline for our survey analysis and good documentation of exemplary procedures. In recognition of their contributions, we have included excerpts from these exemplary projects in several of the appendices. In turn, discussions with many of these officials further corroborated the need for this overall study and development effort especially in the area of evaluation.

As indicated in our original proposal, we had hoped to build upon some of the existing models as well as unpublished contributions of staff members from both Steiger, Fink, and Kosecoff, Inc. (SFK) and Education TURNKEY Systems, Inc. Discussions of general planning, management, and evaluation models, functions, and issues reflect contributions from TURNKEY staff in the development of Special Projects Evaluation Management System (SPEMS). Similarly, the evaluation model proposed, in addition to guidelines, checklists, material formats, and the training guide component are based upon the

experience of Drs. Arlene Fink and Jacqueline Kosecoff and some very recent contributions to the literature by them. As noted earlier, many useful insights as well as specific techniques recommended in this Report were included in the documentation sent to us from districts nominated as exemplary sites.

The principal investigators also wish to express their appreciation to appropriate staff members who contributed substantially to the overall report including Mr. Alfred Morin and Ms. Judi Fillmore of TURNKEY and Dr. Arlene Fink of SFK. Particular thanks go to Dr. Larry Goebel, the initial USOE Program Monitor and to his successor, Mr. Jack Wilson, who provided useful insights into the overall design process. Because this report represents a participatory team effort in which all participants contributed or critiqued all portions of the report, any credit due should go to the team; any criticisms or shortcomings to us.

JoAnn Steiger

Charles L. Blaschke

BACKGROUND OF THE PROJECT

Funded by the U.S. Office of Education under Part C, Vocational Education Research, this project represents a limited attempt to design a set of guidelines for training program directors in planning, managing, and evaluating cooperative education projects. The original proposal included a design phase similar to that described in this volume; the development of the model and training materials; a field test involving practitioners; and final packaging of the model and training components. However, due to a 75% reduction in budget, a much more limited effort was negotiated with the U. S. Office of Education in June 1975. It was anticipated at that time (and plans have been proposed) that the project would continue along the lines described above in developing a validated package of procedures and training material. A proposal has been submitted to develop and apply the generic model, with additional developmental efforts to post-secondary cooperative education projects with a special focus on measuring productivity. In addition, the existing component (evaluation questions) and additional procedures are being proposed for field testing in a public school system's cooperative education programs during the school year 1976-77. In short, the information provided in this document should be considered a preliminary design intended to be used as a basis for future developmental efforts.

In light of the above limitations, however, it was felt that the preliminary design and materials provided in this volume would be useful for a number of purposes to various individuals responsible for aspects of cooperative education.

First, State education officials may note our findings and recommendations in determining their priorities for providing assistance to cooperative education programs in their states. Our review of existing practices in cooperative education projects at the local level indicated a significant gap or deficiency in the area of evaluation. A recent study of urban cooperative education programs conducted by Olympic Research was highly critical of cooperative education program operations in the area of evaluation.[1] It should be noted that this deficiency has also been recognized by the Government Accounting Office; and various versions of legislation address themselves to the questions of evaluation and accountability in vocational education generally at the State and local levels. This would seem good evidence to support State efforts to develop and implement improved evaluation systems for cooperative education at the local level. Our specifications provide the first step for such a developmental effort.

Second, in discussions with project staff involved in cooperative education programs at the local level and officials within SEAs, it became increasingly clear that an administrative rather than managerial philosophy exist. Where emphasis is placed upon administering a program to meet minimal requirements, many opportunities are lost in terms of innovation, creativity, and productivity due to the lack of a managerial philosophy and approach to the problems associated with cooperative education. Hence, it was felt that our general introduction to the concepts of Project Management and Evaluation could be used to foster

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[1] Vincent Breglio, Marta Steven & Jeanette Tobias, An Assessment of School Supervised Work Education Programs, Olympic Research--Decima Research, Santa Ana, CA.

a different perspective at the local level which would be the foundation for further improvements in the quality and effectiveness of projects.

Third, local and regional agencies interested in developing exemplary projects could adopt the general model, or specific design features, to meet local needs and proceed with the development of field testing phases. The specifications were designed with this type of flexibility in mind, to allow for adaptation to varied circumstances (e.g. secondary/post-secondary, urban/rural).

Before describing the preliminary design of the model, it would appear appropriate to review very briefly some of the existing models which were reviewed in the process of synthesizing and developing the overall design. Since many of these models are fully developed, interested readers may wish to obtain information on these models if they appear to be appropriate for application in their respective projects.

First, during the initial phases of the study (during the summer of 1975), the project team reviewed the planning and evaluation models developed by several regional educational labs involved in the experienced-based career education model. These particular procedures and components have been under development for over 3 years and reflect an enormous amount of time and resources directed by the labs utilizing funds from both the U.S. Office of Education and later from the National Institute of Education. For the most part, these models and components were directly relevant to the area of cooperative education. However, due to the experimental and demonstrative aspect of the operational components which were to have been evaluated, the cost of the planning and evaluation components for these

experienced-based models appear to be extremely high and nonfeasible for implementation by a large number of districts involved in cooperative education programs (especially the medium size to smaller districts). However, it should be noted that subsequent to our analysis, the guidelines for fiscal year 1976 for Part D, the Vocational Education Act as amended, indicated a priority concern in having local districts (where appropriate) propose to utilize components from the experienced-based models in their Part D proposals and subsequent projects. In terms of timing, if for no other reason, it was felt that any description of these models in a report of this nature would be too late and unnecessary since descriptive information was provided to applicants by the U.S. Office of Education program monitor of Part D projects.[2]

Second, we reviewed a number of specific components of existing models which appeared to be relevant, a few of which are mentioned below. The Delphi technique applied at the Dallas Independent School District in the planning phase of the Skyline Institute appears to be a very effective and reasonable approach for projecting long-term occupational demands within a metropolitan area. The approach for determining the cost-effectiveness used by Battelle Memorial Institute (Columbus, Ohio) for cooperative education programs is extremely useful from a policy point of view; however, it has limited applicability at the local level. A model presently under development by the U.S. Office of Education (OPB&E) conducted by Development Associates, proposes an evaluation model for career education projects.[2] This model provides basic information regarding the concept of evaluation and alternative models presently used. In addition, it provides extremely useful information regarding specific

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[2]For additional information contact Program Monitor, Part D Projects, USOE/BOAE, 7 and D Street, S.W., Washington, D.C.

procedures which can be applied under various conditions within various evaluation designs. However, this model is not directed toward co-operative education programs. Over the last 5 years, Research for Better Schools, Inc., a regional education lab based in Philadelphia, has been developing a model for planning, managing, and evaluating special projects in education generally. This model (which is based upon earlier work conducted by Dr. Desmond Cook) is extremely sophisticated and requires an enormous amount of staff training for implementation. While it still remains one of the most comprehensive models and training programs for special projects in education, generally, little specific guidance is provided for cooperative education projects.

Third, perhaps one of the most useful models for adapting to this particular project, is a model developed at the Center for Study Evaluation (UCLA) on program planning and evaluation over the last 5 years. This particular model, published by McGraw-Hill, includes not only systematic procedures but also an intensive training component. This model appeared to be extremely useful for cooperative education and its problems since the major focus is upon evaluation with program planning and management considered subcomponents of an overall evaluation model. Recent variations of this CSE model have been published by the authors of the CSE model and individuals involved in this specific project.

And last, given the problems identified during our survey, components of the TURNKEY SPEMS model appear to be directly relevant. This particular model is similar to the RBS model and the CSE model in certain respects; however, it is much simplier than the RBS model, directed toward a learner

without much knowledge and experience in planning, managing, and evaluating special projects. Under development since 1971, this particular model has been developed jointly with practitioners from over 50 school districts across the country reflecting a practical and pragmatic rather than a theoretical approach. It was felt, however, that the evaluation component of SPEMS was too technical and not directly applicable to cooperative education programs.

In summary, the reader is reminded that this particular model should be considered a preliminary design with inherent limitations imposed by budget constraints and the need for an extended time for the completion of development, field testing, and packaging efforts. It was felt, however, that given the national attention to cooperative education and the glaring deficiencies in certain areas (such as evaluation) that the information in such a preliminary design would be useful to a large number of practitioners at the State and local level.

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VOLUME II

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CHAPTER I

THE NEED FOR TRAINING

At present, cooperative education is extremely popular. President Ford voiced support for the expansion of work experience programs in his speech on work and education at Ohio State University in August 1974. Even the General Accounting Office, in an otherwise heavily critical examination of vocational education, endorsed cooperative education programs, saying their use ought to be expanded further.[1] Since cooperative education programs more than doubled in size between 1970 and 1974 -- 605,140 students, up from 298,915[2] -- that is quite an endorsement.

The National Manpower Institute, in its report The Boundless Resource, released in November 1975, recommended the development of programs giving all students at least 500 hours of work or service experience and the institution of a comprehensive program of community internships and work apprenticeships.[3]

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[1]Comptroller General of the United States, U. S. General Accounting Office. Report to the Congress: What is the Role of Federal Assistance for Vocational Education?, Washington, D. C.: U. S. General Accounting Office, December 31, 1974, p. 91.

[2]Data from the U. S. Office of Education, Bureau of Occupational and Adult Education. In 1974, 115,345 students were reported in programs funded under Part G and 489,795 in programs funded under Part B of the Vocational Education Amendments of 1968. In 1970, 23,001 were funded under Part G and 266,914 under Part B.

[3]National Manpower Institute. The Boundless Resource: A Prospectus for an Education-Work Force Policy. November 1975.

Beatrice G. Reubens, in her paper prepared for the HEW Secretary's Committee on Work in America, stated "a desirable goal for cooperative education might be 50% of all in high school vocational and general education."[4].

However, amid all this praise, a warning also emerges. There are some significant weaknesses in the design and management of cooperative programs, and unless these flaws are rectified, the cooperative education movement could find itself consigned in five or ten years to the category of education models that promised more than they delivered.

A major weakness in cooperative programs today -- as in many education programs -- is in management and evaluation. Specifically, managers of cooperative education programs seldom systematically evaluate their activities to discover which program elements work well and which do not. Right now, enthusiasm is high. Informal assessments and intuition seem adequate to support the conviction that these programs are effective. But that can hardly last. The competition for funds at all levels of government promises to be increasingly intense in the coming decade and the anticipated expansion of cooperative education programs will undoubtedly be followed by a demand for formal evaluation. By and large, managers of these programs are not now prepared to meet this challenge.

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[4]Beatrice G. Reubens, "Vocational Education for All in High School?", prepared for the Secretary's Committee on Work in America, Department of Health, Education, and Welfare, September 1972.

Developing management capability, particularly with respect to evaluation, is critically important for the cooperative education movement today for at least two reasons. First, such capability will make managers of cooperative education programs better able to detect early those aspects of their programs which require bolstering and those which could be expanded. Second, such management capability will give these programs a firmer base from which to bid for scarce resources in the future, when the predisposition of funding sources toward cooperative education may be less favorable than at present.

The evidence that evaluation is a major area of management deficiency in cooperative education and related types of work experience education seems clear.

In order to measure the success of cooperative education programs, one needs follow-up data on the success of program graduates in obtaining and progressing in employment. Yet many programs do not collect follow-up data or do so in an informal manner which does not allow one to draw inferences about the program. In an extensive study of fifty exemplary cooperative education programs conducted in 1973, Frankel found that only 61% had any follow-up procedures at all, and the vast majority of those were smaller programs. Only 8% of programs with 40-99 students had follow-up procedures and none of the programs with more than 100 students collected follow-up data.[5]

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[5]Steven M. Frankel, et al., Case Studies of Fifty Representative Work Education Programs. System Development Corp., Santa Monica, Ca., 1973.

Frankel also found that program administrators seemed to have little understanding of what attributes of their programs contributed to success. For example, when surveys of the opinions of students, employers, and administrators concerning the success of cooperative education programs were compared, no correlation was found between the ratings administrators gave their programs and the satisfaction indicated by students and employers. In fact, on some indices high marks by administrators on program quality had negative correlations with successful outcomes.[6]

Investigations of vocational education programs in general have revealed a widespread lack of modern management and evaluation procedures. The 1974 General Accounting Office report stated, "In the states we visited the existing vocational programs at all levels lacked adequate student follow-up. We were told that without this type of information, 1) it is extremely difficult to determine the extent to which specific training is impacting on individual and labor market needs, and 2) essential information on which to base instructional changes is not available to vocational educators and planners."[7].

A statewide study of the evaluation of local vocational education programs done by the Bureau of Vocational Education in

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[6] Ibid.

[7] Comptroller General of the United States, op. cit.

Kentucky found "not only was there a lack of formal organization, but there was no formal evaluation procedure ... Those responsible for operating vocational education programs, especially at the local level, did not possess the expertise in evaluation and organization necessary for effective vocational education evaluation ...". The study found that local program managers needed to know how to organize a successful evaluation effort and also needed training in what evaluative procedures and techniques to use.[8]

Informal discussions with educators at the state and local level who are concerned with cooperative education programs confirmed the findings of these studies, namely, that there is a general lack of sophistication in management techniques on the part of program administrators and that the greatest need for training is in the area of evaluation.

Therefore, in the development of a model and guidelines for training materials for cooperative education program directors, the following principles were followed:

1) the major emphasis should be on developing basic capability in program evaluation;

2) the evaluation model used should be practical, easy to understand, and suited to the special needs of cooperative education;

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[8]Floyd C. McKinney, Alfred J. Manneback, and C. O. Neel, Final Report. Central Kentucky Vocational Education Evaluation Project. Bureau of Vocational Education, State Department of Education, Frankfort, Kentucky.

3) the planning and management instruction should build on current capabilities and be developed to increase effectiveness.

CHAPTER II

EXEMPLARY PROGRAMS

Within the limited scope and budget of this project, efforts were made to examine the best of current practice in planning, management, and evaluation of cooperative education programs. State Directors of Vocational Education in forty states were each asked to nominate two cooperative education programs within their states that had noteworthy planning, management, or evaluation components. The program director at each nominated site was then sent a letter explaining the project and requesting relevant information and documents.[1]

The following definitions of cooperative education, work-study, and work experience were used (these definitions appear in the letter to the site directors):

> COOPERATIVE EDUCATION: a program of on-the-job work experience related to the student's course of study and chosen occupation. Such programs have educational objectives, including specific skill training objectives, and the work experience is closely tied to classroom instruction.

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[1]For copies of the letters sent to and responses received from State Directors and site directors, see Appendix A.

WORK-STUDY: a program of employment to provide financial assistance to students who are in need of earnings from employment to commence or continue their vocational program. The employment is not necessarily related to the student's course of study.

WORK-EXPERIENCE: a program of on-the-job work experience designed to acquaint the student with the job setting. Such programs have educational objectives -- usually in the area of expanding the student's career horizons or introducing the student to job activities and requirements -- but not skill building objectives. A wide variety of programs, including most career education work units and post-secondary clinical experience programs, fall into this category.

The materials sent in response to this inquiry had much to recommend them. However, it also became clear that even these exemplary programs rarely had systemmatic management and evaluation procedures. A review of the materials thus tended further to support our conclusion, expressed above, that cooperative education programs would benefit from increased use of formal management techniques with special emphasis on evaluation.

A word of caution should be expressed here in interpreting the following findings. Because funds were not available for site visits or extensive follow-up, the project staff was solely dependent on materials submitted by the site directors. The

intention was to examine, as simply as possible, the best of current practice, rather than to attempt an indepth analysis of representative programs.

The programs from which responses were received reflected many commonalities amid great variety. All the programs examined were true cooperative education programs with on-the-job work experience and a required related class. In most cases the related class was taught by the same teacher/coordinator who arranged and supervised the work experience. A number of sites also had additional, informal work experience programs for students who did not qualify for the cooperative education program.

Most programs required a minimum of fifteen (15) hours a week on the job, with classes in the morning and work in the afternoon. The range of allowable work hours per week was from ten (10) (Visalia, California) to forty (40) under special circumstances (Fort Wayne, Indiana). As a variation from this typical format of classes in the morning and work in the afternoon, New York City offers an alternate week program in which students attend school full time one week and work full time the next.

The most common program areas were distributive education, industrial education, and office occupations. Most of the programs were designed for relatively highly employable students.

Common student selection criteria included:

1) the student must be 16 years of age and a senior (a few programs admitted juniors);

2) the student must be at grade level in basic subjects and be accumulating sufficient credit to graduate;

3) the students must be rated by their teachers, councelors, and principals as reliable, punctual, honest, and successful in dealing with peers and adults;

4) the student must evidence a sincere interest in the program and be able to benefit from it.

One program manual specifically stated that the cooperative education program was "not for disruptive students".

Several sites had special programs for students with special needs. Mesa, Arizona, for example, has a Career Lab for potential dropouts, Industrial Occupations for students with special needs, and Occupational Education for students with learning problems. Only one site, Visalia, California, specifically integrated special needs students intc the regular cooperative education program. Visalia had as an objective that 35% of the enrollment be minority, handicapped, or disadvantaged students.

Required teacher/coordinator's supervision of the work site ranged from a mandatory visit of one-half hour per student once every two weeks (Hanover Park, New Jersey) to monthly visits (Providence, Rhode Island) to a minimum of twice per quarter (Visalia, California).

The materials submitted by the exemplary sites supplied considerably less detail regarding management procedures than was provided regarding program content.

PROJECT MANAGEMENT

Frequently the program management scheme was presented in terms of the coordinator's job description. Almost all sites sent detailed descriptions of the coordinator's responsibilities. In the following pages are typical examples from Milwaukee[2] and New York City[3] (see Appendix B for details).

Examples of Coordinator's Responsibilities:

Milwaukee:

- Identifies and Selects Program Student/Learners
  - Describes the program to students
  - Works with teachers, guidance counselors, administrators
  - Provides occupational information
  - Gathers information on students
  - Schedules programs for student/learners
  - Counsels student/learners and their parents
  - Assists student/learners with career planning

- Identifies and Selects On-the-Job-Training (OJT) Stations
  - Enlists participation of cooperating employers
  - Identifies suitable training stations for each student/learner
  - Orients employers, training supervisors and co-workers
  - Prepares students for job interviews
  - Assists student/learners to obtain placement in on-the-job-training stations
  - Prepares and processes training agreements

- Assists Student/Learners to Adjust to the "World of Work"
  - Assists student/learners with problems which arise in the OJT situation
  - Confers with training supervisors regarding "adjustment" problems
  - Evaluates the student/learners progress in the OJT situation

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[2] Department of Elementary and Secondary Education, Division of Curriculum Instruction, Milwaukee Public Schools. Industrial Cooperative Education Operational Guidelines, 1972, pp. 5-7.

[3] Bureau of Cooperative Education, Office of High Schools, Board of Education of the City of New York. Cooperative Education Coordinators Handbook, 1974, pp. 9-14.

New York:

- Administrative Responsibilities to the Cooperative Education Bureau:
  - Attend monthly meeting of Coordinators at the Board of Education
  - Attend meetings with the Borough Coordinator
  - Submit records and reports in accordance with dates specified in monthly Cooperative Calendar ...
  - Make supervisory visits to industry as directed by the Central Office, and submit report

- Administrative Responsibilities Within the School -- Principal and Assistant Principals:
  - Consult the administration concerning school schedules for Cooperative students ...
  - Suggest to Assistant Principals (Supervision) teachers who will relate well to Co-ops
  - Involve the Assistant Principals (Supervision) in the program and request that they recommend potential Co-ops for the following term. This is especially helpful in the business area.
  - Discuss with Assistant Principals (Supervision) curricular modifications based on current techniques and trends in industry. Relay information gained from your visits to industry and from students' job experiences.

As part of an experimental management system, the Glendale Union High School District has refined a description of the coordinator's responsibilities and tied each task to expected completion dates. Although the management documents are not in final form (the project to develop the management system is still in progress), they have been included in Appendix B as an example of this approach.

Three sites included management flowcharts in their materials. They have been reproduced in Appendix B. The presence of flowcharts or other devices for planning and monitoring program process does not necessarily mean, of course, that those programs are better managed than are programs without such tools. However, as cooperative

education programs expand, schools may find that an informal management approach is not sufficient to produce effective control. The time task chart in one of its infinite varieties is a simple tool which can help the program director keep track of activities and assure that tasks are being completed on time. The versions shown demonstrate three possible approaches which schools have found useful.

OBJECTIVES

All of the sites had objectives. All had either student outcome objectives or program process objectives. Bellevue, Nebraska had the following student outcome objectives among others described in Appendix C.[4]

- The student will possess skills and positive attitudes towards performing his assigned tasks.
- The student will represent the business favorably to customers and outside business associates.
- The student will be able to demonstrate initiative and creativity in selected problem solving situations.
- The student will be able to talk clearly and pleasantly, conveying spirit and enthusiasm.
- The student will become aware of other's needs and motivations in order to work more cooperatively with fellow employees, supervisors, and management.
- The student will develop the attitude that personnel policies are established for the benefit of the store and the employees.

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[4]Taken from information supplied by Vocational Director, Secondary, Regular Cooperative Programs, Bellevue, Nebraska.

Visalia, California had the following program process objectives for one of its programs (also see Appendix C).[5]

- During the 1975-76 school year, cooperative agriculture education will be provided for a minimum of twenty students of whom at least eighteen will acquire saleable skills necessary for employment.
- By the end of 1975-76 school year, each student enrolled in the program will have had an opportunity to complete 175 hours of related classroom instruction.
- By the end of the 1975-76 school year, each student enrolled in the program will have been provided an opportunity to complete a minimum of 350 hours of paid cooperative work experience.
- During the 1975-76 school year, the teacher/coordinator will continue to use an individualized, self-pacing, continuous progress curriclum.
- By December 1975, at least 80% of the students enrolled in this program will be members of the Future Farmers of America (FFA).
- Each student who completes the program will have developed job entry level skills necessary to retain employment and to be certified employable by the teacher/coordinator and the cooperative work experience sponsor.
- By June 1976, the teacher/coordinator will have attended at least five hours of work experience education in-service training.

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[5]Vocational Education Project Application for Funds Under the Vocational Education Amendments of 1968, State of California-Vocational Education, Visalia Unified School District, p. 15.

The following are examples, taken from Providence, Rhode Island[6] and Livingston, New Jersey[7], respectively, which demonstrate the most commonly found type of objectives -- those which describe the kinds of opportunities to learn the students will have:

- Develop an awareness in the student of the real relationship that exists in the world of work and learning in school thereby maintaining the student to seek further growth and development which will enhance his future life style;
- Develop in the student individual qualifications for subsequent full-time employment or advanced study;
- Encourage the student to continue his schooling by permitting him to satisfy his financial needs through part-time employment;
- Enhance the student's occupational preparation by involving him in the real world of work.
- To provide students with specific vocational training in order to provide for articulation between classroom and job;
- To have the student examine the necessity of good human relations and put them into practice;
- To allow the student to put his classroom learnings to practical use;
- To provide an opportunity for the development of certain desirable work habits such as industriousness, responsibility, self-reliance, and punctuality;
- To provide opportunities and experiences for the development of social skills and the ability to get along with others.

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[6]Cooperative Vocational Education Guidelines, Cooperative Vocational Education Program of the Providence School Department, Providence, Rhode Island, June 1975, p. 2.

[7]Cooperative Office Education Manual, Livingston High School, Livingston, New Jersey, p. 2.

It is easier to plan, manage, and evaluate programs which have clearly stated and distinct student outcome objectives and program process objectives. None of the materials received showed both.

EVALUATION

There are three kinds of evaluation problems addressed in the materials:

1) evaluation of the student's performance during and at the conclusion of the program;

2) student success in obtaining and holding jobs in the year following graduation; and

3) general program evaluation.

Providence, Rhode Island reported one of the more extensive lists of ways in which student achievement is measured:

- Evaluation of student knowledge and applications
  - teacher developed tests
  - standardized tests
  - teacher observation
  - practical tests on equipment
- On the job performance as evaluated by
  - weekly attendance sheets
  - monthly employer evaluation reports
  - monthly coordinator visits to job sites.

Evaluation of the student's performance on the job is done primarily by the employers in most sites. Some sites also use teacher/coordinator ratings and student self-ratings. Examples of the forms used by several sites for this purpose are included in Appendix D.

FOLLOW-UP

Seven sites reported a follow-up system in place (or planned) to ascertain the success of students in obtaining employment after graduation. Arizona sites reported that the state performed all follow-up studies. Indiana sites sent information about a new "System for Implementing Review and Follow-Up (SIRF)" developed by the State. Wyoming, Michigan transmitted both the State follow-up form and a special form used in a State Advisory Council Study (see Appendix E).

Providence, Rhode Island reported that all 1974 cooperative education graduates were surveyed a year after graduation and the following pattern was found:

176 completed the program
- 71 employed full time in field trained or related field
- 17 other employment
- 10 unemployed
- 11 higher education
- 12 not available for placement
- 55 status unknown

New York City provides information comparing the attendance and dropout rates of cooperative education students with citywide rates and also comparing the attendance, lateness, and academic achievement records of cooperative education students with records they established before entering the program. In all cases the comparisons favored the cooperative education program.

General sites reported informal program evaluations, usually consisting of descriptions of the programs in action and suggestions for change. The evaluations were developed by a panel of reviewers on an advisory committee.

In no sites were there evaluations reported which compared the skills or job placement rates of cooperative education students with those of a comparable group of non-cooperative education students. In no sites were there reported systemmatic evaluation studies which linked specific aspects of cooperative education programs with differing levels of student achievement.

To be sure, our examination uncovered a number of useful devices at the exemplary sites which could serve as models in a training program in the planning, management, and evaluation of cooperative education programs. For example, some of the employer rating forms and follow-up forms which we have reproduced appear quite useful.

However, this examination lends weight to the conviction that cooperative education programs could benefit from rigorous management and evaluation training and the systemmatic application of these skills.

CHAPTER III

PLANNING AND MANAGING EDUCATION PROGRAMS: GENERAL

Management improvement in public education has increasingly become a priority at local, state, and federal levels. Only five years ago a survey conducted by the American Association of School Administrators found that only 1% of superintendents felt skills in management areas such as "systems analysis" would help them administer or run a school. Of the 50 "topics" scheduled for the AASA Annual Convention in 1976, 36 are directly related to management. Moreover, practically all "job descriptions" for superintendency openings identify "management skills and experience" as a prerequisite. Indeed, the number of superintendencies and other high level staff positions filled by "professional managers" has increased dramatically.

This demand for better management comes from several forces. Public elementary and secondary education is in a recession with student enrollments declining for the first time in the history of this country; this requires new administrative skills and perspectives. Inflation rates, intensified by the energy crisis, have had a particularly high impact on public schools. Increased organization and unionization of "labor" has forced a change in management approach. And state, federal, and local mandates for accountability have forced the need to "manage for results in the 70's".

While the need for improved management generally is increasing, the demand for effective management for special projects and programs is even greater.

FUNCTIONS OF MANAGEMENT

The functions of management in education differ significantly from those generally accepted and used in industry. In the private sector, particularly industry, the function of management is to plan, organize, direct, and control an operation, usually with the objective of maximizing profit in one of two ways: a) given a predetermined expense budget, maximize sales volume, or b) given a predetermined or contracted volume of sales, minimize costs.

In education generally, the functions of management are similar to those above; however, the goals are significantly different. Conceptually, an analogy could be to "maximize the production of learning and skill acquisition given a projected budget"; however, in reality goals are seldom output oriented but rather process oriented. For example, at the simplistic level given many of the above factors contributing to the economic depression in education today, the goal of many school managers is to keep school doors open and programs operating. In a limited number of cases, however, an output orientation for management does exist, using measures such as student scores on national standardized achievement tests. For the most part, however, the goals of education management fall between these two extremes. Yet,

due to increased pressures for accountability, the movement generally is toward an output orientation.

MANAGEMENT REQUIREMENTS FOR SPECIAL PROGRAMS

The major management tasks prior to and during the operational phase of programs include a) program planning, b) program preparation and startup, c) program monitoring, and d) problem identification and problem solving.

A. Program Planning

The management tasks in planning a program are identified below although they do not necessarily have to follow sequentially in all situations.

Planning usually begins with the identification of problems or discrepancies between actual progress in an area and the stated goals of the district. Once the discrepancies are noted, then the specific goals of the program are established. These goals are also usually established through a consensus process, attempting to identify the causes rather than symptoms of the problems.

If local resources are not available, then outside resources to fund a program designed to solve the identified problems must be found. Here, sources might include foundations, state education agencies, and appropriate divisions of federal agencies. And in many instances the nature of program guidelines will constrain to some extent the nature of the problem as defined and the types of approaches which are acceptable for inclusion in

the proposal generated by the district. These proposals usually include the identification of problems, the justification and their verification, the discussion of alternatives and various constraints, selection of the alternative which makes the most sense and appears to be most cost-effective, concurrence of staff, and then approval by the district.

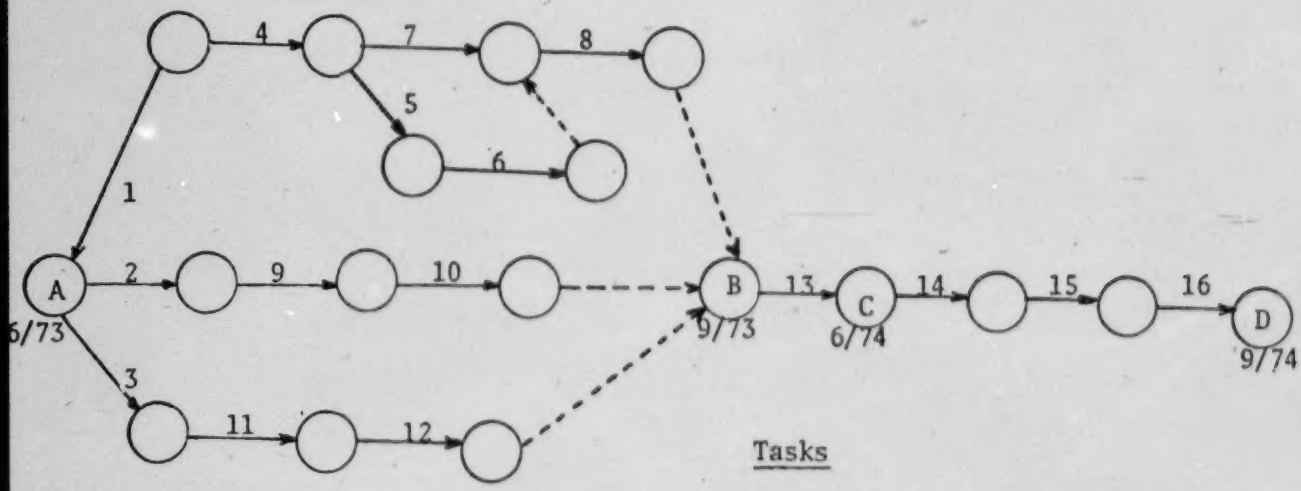
Once the overall goals and objectives of the program are identified, then the major task is to determine what activities (e.g., specific actions which consume resources) are necessary. This is usually done by breaking the overall program into work packages, which are activities that are similar in substance (e.g., test administration and test scoring) or are conducted by similar staff (e.g., instruction in math and instruction in reading in an elementary school, both conducted by the home room teacher).

Once the specific tasks and activities are identified, then they are arranged in such a way that the flow of work can be displayed, usually visually and in a sequential and logical order. An example of such a "work flow" diagram is presented in Figure 1. In developing a work flow, one is constantly attempting to minimize peaks and troughs in the use of limited resources over an extended period of time to prevent "down time" of staff.

After activities have been identified, and usually concurrent with the development of a "work flow", the program director and staff develop an estimate of resources used to

SPECIAL PROJECT WORKFLOW

EVENT WORKFLOW DIAGRAM



Selected Events		Date
A.	Project begins	6/73
B.	Program operations begin (instruction)	9/73
C.	Program operations end	6/74
D.	End of project	9/74

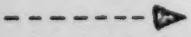
Tasks

1. Determine objectives
2. Select teachers
3. Select tests
4. Select materials
5. Purchase materials
6. Prepare materials
7. Develop instructional program
8. Field test the program
9. Develop training program
10. Conduct teacher training
11. Administer pre-test
12. Score pre-test
13. Conduct program operations
14. Administer post-test
15. Score post-tests
16. Determine and report results

LEGEND

Represents an event, the start or completion of an activity or the completion of one activity and the start of another.

Represents a time or resource consuming activity conducted between two events.



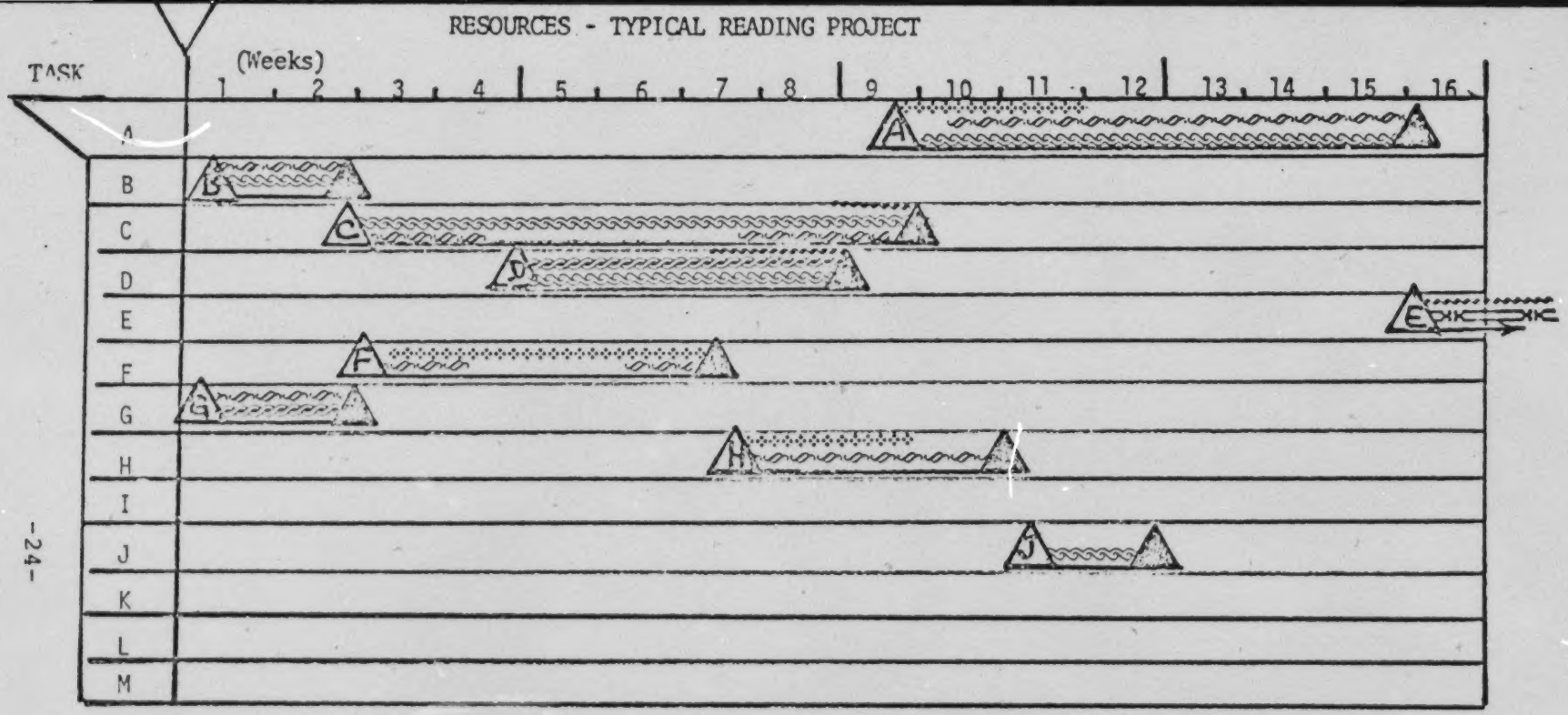
Represents activities which do not consume time or resources; e.g., transfer of information or results of previous event into subsequent tasks.

actually implement the program which in turn is usually reflected in a budget. An illustration of processes for depicting the total amount of resources used in conducting specific tasks is illustrated in Figure 2.

B. Program Preparation and Startup

An evaluation design must be developed and/or refined to assure that appropriate processes and procedures are utilized to determine whether the project objectives are being met. Such a design may have been already developed during the planning phase. If so, it should be re-examined before being implemented, especially if program modifications occurred during negotiations with the funding agency.

An information system must be developed which will accommodate the evaluation design and management monitoring activities during the operational phase of the program. It must be determined whether the use of the existing districtwide information reporting procedures can be used; to the extent they cannot, additional reporting procedures which are specific to the program need to be developed. The specific data system requirements will have to take into account who will decide what, when, and on what basis. In most instances, instruments will have to be developed for collecting, processing, and analyzing information about the program during its operational phase and reducing it into a format suitable for decision making purposes.



RESOURCE CODES

- Teacher
- Curriculum Specialist
- Training Consultant
- Materials/Equipment
- Students
- Administrative--LEA

FIGURE 2

A number of startup activities involved in most special programs include:

- the selection, hiring, and training of staff;
- the development and/or refinement of an overall organizational chart which delineates lines of communications, responsibilities, and authorities of the program director as well as individual program staff assigned to conduct specific activities;
- purchasing of materials, supplies, equipment, etc.;
- orientation to program staff as well as officials interested in or affected by the special program.

It should be emphasized that the effectiveness by which program preparation and startup activities are conducted by the program director is usually the single most important factor in the determining of the overall success of the program.

C. Program Monitoring

Once the program is implemented, a major responsibility of the program director is to monitor the program through personal site visits as well as through a predetermined reporting system. As described later, to the extent the program director is perceived by staff as a "problem solver", monitoring will be viewed in a positive rather than a negative way. The monitoring and reporting systems used in special programs vary considerably; however, to have an effective system one should include instruments which a) clearly identify the persons responsible for completion of specific tasks and the criteria and date for completion of the task; b) an early warning mechanism to flag slowdowns; c) an instrument

which depicts (visually in most instances) the progress of all tasks being undertaken in light of the objectives to be achieved and related utilization of resources.

D. Problem Identification and Problem Solving

The ultimate purpose of monitoring a program is to assure its completion by the early detection of problems and the application of effective procedures for solving them. Problems may be created by external factors such as funding agency redirections and/or internal conditions such as personnel turnover. The program director must constantly consider the trade-offs (i.e., what has to be abandoned in one area to get something in another) involving a) time constraints, b) resource availability, and c) the levels of performance.

The process of problem identification and solution is at the heart of managing special programs. The specific steps are noted below:

Step 1 Identify Problems:
Verify existence,
Determine what is not the problem,
Determine degree of severity (tolerance),
Rank problems according to impact.

Step 2 Determine Causes:
Assess program data,
Consult with staff,
Simulate the cause,
Verify.

Step 3 Analyze Alternative Solutions (Opportunities):
- Verify potential
  - assess data
  - assess context
  - identify strengths and weaknesses
- Rank alternatives with staff consultation
- Test "best" alternative
  - time and costs
  - meet objectives
- Select alternatives

Step 4 Execute Solution:
- Document,
- Communicate,
- Follow through,
- Modify plan.

CHAPTER IV

SPECIAL PROBLEMS IN PLANNING AND MANAGING COOPERATIVE EDUCATION PROGRAMS

The following discussion is intended to provide perspective on special problems in planning and managing cooperative education programs and give some direction to those designing training materials dealing with these issues.

ISSUES IN PLANNING

A. Clarifying Goals

As examples of the kinds of problems planners face in defining the objectives of cooperative education programs, we will examine briefly three commonly found objectives of these programs.

The most common major objective of cooperative education programs is to prepare students for employment. The objective might be stated as follows: Upon leaving school, all students who desire to do so shall obtain appropriate paid or unpaid employment or continue with further education. In line with this, the placement rate of program graduates in jobs becomes an important component of program evaluation. Yet there are two dangers here which should be understood from the start. The first danger is confusing the ability of the school to train workers with the ability of the economy to provide jobs. Training materials should urge educators to keep in mind that the general health of the economy and the unemployment rate have more effect on job placement

success than do training programs. Program planners should clearly understand that at best, the school can marginally increase job placement rates of youth by providing students increased access to existing jobs. Educators can help overcome the prejudice of employers toward young people. Also, they can give a small group of special program students a competitive edge over other youngsters their own age in securing employment. But in stating their objectives, program planners should be careful not to accept responsibility for economic problems beyond their control.

This consideration is particularly important if one plans to expand a cooperative education program which has had a very high placement rate in the past. Training materials should urge program planners to ask themselves to what extent is it possible to maintain that placement rate if one doubles the number of students? Are there really enough jobs to absorb them or will they just be competing with each other for too few slots?

The second danger with the job placement objective is that insufficient care will be given to placing students in good jobs. Although educators must be sensitive to the needs of employers, the training materials should make clear that it is not the purpose of the school to provide business and industry with willing workers at all levels. The purpose of the school is to increase the opportunity for students to obtain better jobs than they would have obtained had there been no job training program. "Better" is defined as being superior on one or more of the

following measures: 1) more satisfying personally, 2) brighter future for advancement, 3) more satisfying financially.

Using the criterion of good jobs rather than just jobs leads to an additional complication -- the different potential of different students. In planning a program one must define from the start what students one is talking about. Most cooperative education programs set minimum standards for enrollees, such as good attendance records and at least moderate academic accomplishment. Other programs are specifically designed for disadvantaged or handicapped students. The kind of job which would constitute a successful placement for, as an example, a moderately retarded student will be quite different from a successful placement of a student qualified for intellectually challenging work.

This must be taken into account when designing the program and obtaining training stations and also when planning the evaluation. Training materials must make the point clearly in the planning section, and must make it again forcefully in the evaluation section. In evaluating program success, students in the program should be compared to that of other students with approximately the same ability and background. Comparing the success of program graduates who are carefully selected from the top 30% of their class with the success of average students will obviously give results biased in favor of the program, while comparing the success of disadvantaged program participants with that of the average student will yield results biased against the

program. Obvious as these problems seem, such unfair comparisons are very common in evaluations of cooperative education programs.

Consider another common type of objective for cooperative education programs: "Students will be able to make rational career decisions based on knowledge of self and knowledge of the world of work.". This objective seems reasonable enough at first glance -- after all, one does not want to encourage students to make irrational decisions -- but if one looks at it up close it can be very tricky. What is a rational decision? How can one measure it? If one measures rational choice by comparing students' job choices with their scores on traditional career interest inventories, for example, one has the problem of taking into account inherent cultural bias and sex bias in the tests which will tend to direct minority group members and women into lower paying jobs. Career guidance tests, and even most guidance counselor interviews, can only measure interests that have already been developed. They cannot predict future interests or measure the ability of students to develop skills they have never tried. Rather than focusing entirely on matching students to jobs on the basis of current level of skill and interest, training materials should urge educators to be equally concerned with encouraging students to try new occupational areas. The materials should also deal in depth with the special problems that women and members of ethnic minorities face in choosing and obtaining jobs.

A third common type of objective is of the form: "Students will possess skills necessary for obtaining entry level jobs.". If planners have done their work properly in examining the implications of the job placement objective discussed above, planning for this objective becomes simple. Having decided what jobs one wants to prepare students for, the planner must determine what skills employers require in employees applying for those jobs. Some employers want workers who are reliable and punctual, can read, write and do simple arithmetic, can speak English clearly and have a serious attitude toward work. Given an employee like that, they prefer to do their own specific skill training. For other jobs, employers require specific skills. In some areas where employers have access to an experienced labor force they will not hire students just out of school who have not already acquired a skill. The major advantage of cooperative education programs, of course, is that frequently the student is trained during the education program at the job and in the firm that could hire him or her at the completion of the program. So long as that job fits the "better" job definition discussed above, the problems of skill analysis are obviated. However, the materials should remind educators that many students will not be hired permanently by the employer with whom they did their training. Program planners therefore need to analyze the extent to which the training provided matches the requirements of the employer who will ultimately do the hiring. Furthermore, in planning the in-school component of the program

educators need to know which aspects of preparation for work should be emphasized.

B. Assessing Participants' Desires

A cooperative education program works best when it suits the needs of both students and employers. For small programs this match is usually not too difficult to obtain. A certain percentage of local employers will be willing to participate. A certain number of students will be interested in training for the jobs being offered. Problems can occur, however, when a successful program expands. Most commonly the problem is finding enough training stations for all the students who wish to participate. Those in charge of the program may be tempted to accept slots that are really dead-end, low-paying jobs, inappropriate for an educational program. Likewise, the program should not accept students who do not need or do not want training but rather, for example, want an opportunity to earn money while attending school. Such students should be offered a time-release or work-study program and not enrolled in a cooperative education program which has specific vocational training objectives.

Thus, in assessing participants' desires, program planners need to be careful to compare those desires with the objectives of cooperative education and be sure that cooperative education is the program that is called for to meet those needs.

Training materials should also emphasize that in planning for cooperative education programs, more than for most

educational programs, it is important to consider the needs and desires of a variety of community members. Planners must assess the desires of parents, of employers, of labor union representatives, of organized interest groups and of the community at large. One commonly used way of obtaining continual input from interested non-educators is to appoint an advisory council.

In many school districts there are craft advisory councils for each occupational area. The members of these councils can be consulted by program planners. A single, district-wide advisory council can also be consulted. Training materials should include specific procedures for maintaining liaison between the council and program managers throughout the year.

Having ascertained what type of programs students desire and what types of programs the community considers desirable, the planner is left with the job of surveying employers to estimate potential training stations. If there is a great demand for a training program in metallurgical technology but there are no appropriate facilities nearby willing to participate in the cooperative education program,there is no point in proceeding with the plan. On the other hand, planners should not get discouraged too easily. Seeking out training stations is a long, hard job.

C. Labor Market Projections

Simultaneous with the assessment of student and community desires, and of the availability of appropriate training stations, the planner must obtain the best possible projections

of future job openings. There is no point in preparing students for jobs which are likely to disappear. The planner should look at both likely local jobs and the job picture nationwide. Cooperative education, like all vocational education, should be closely tied to the labor market when possible. Although student desires are the primary concern of the school, the school also has the responsibility to provide students with the best possible information about the employment reality he or she will face after graduation, and not to continue to provide training in areas where there are no jobs.

The problem of obtaining good projections is a difficult one. What data do exist are frequently in a format which is difficult to translate into educational terms. In the 1974 report of the National and State Advisory Councils on Vocational Education, 70% of the state councils polled reported that the absence of current, accurate data in useful format severely inhibited the planning process in their states.[1]

ISSUES IN PROGRAM MANAGEMENT

The crucial difference between managing a cooperative education program and managing most other education programs is the relative lack of control. The educator must depend on the employer

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[1] National and State Advisory Councils on Vocational Education. The Impact of the Vocational Education Amendments of 1968. National Advisory Council on Vocational Education, Washington, D. C., April 1974, pp. 4-5.

to provide the learning experience and must spend much of his or her time in liaison and coordination work.

The key management concern in dealing with all the different parties involved in a cooperative education program is communication. Information about the program director's expectations must be clearly communicated to staff, students, participating employers, parents, advisory groups, and all other involved parties. Good, clear statements of objectives, definitions of the responsibilities of staff, students, employers, and the advsiory council can simplify this task considerably and avoid later misunderstandings.

Even the best laid plans -- and the best written job descriptions and employer agreements -- are sometimes inadequate. Unexpected problems arise. At those moments a good communications system can minimize the difficulty and allow the program to proceed. Information about the problem must reach the program director, or other appropriate staff member, quickly and accurately. With good information in hand, the director can then check with the appropriate people and take necessary action.

A good informal communications network should complement, but not substitute for, a formal data collection system. The training materials should make clear that only a well planned, formal data collection system can yield the type of information necessary for program documentation and evaluation.

On the other hand, the formal data collection system, and the on-going evaluation, can yield information which can help the

program director make decisions concerning program changes in the course of the year. Obviously, if information comes back that there are serious problems at one particular work site or with a particular staff member, the program director will want to take appropriate action. Increased information means increased ability to keep the program on track.

In addition to the particularly heavy burden of coordinating extensive off-campus activity, the director must also bear all the standard management responsibilities of program oversight. Overseeing the timely completion of tasks and the efficient use of resources is made easier if a clear management plan with an easily read visual display, such as a flowchart, has been designed at the planning stage. The director is then forewarned when dates by which specific tasks must be completed are approaching and helps the director see what the alternatives are when modifications are called for.

The cooperative education program director also has a responsibility to maintain liaison with advisory councils and with community groups. The cooperative education program can only continue to succeed with strong community support. The training materials should emphasize that public relations work is an integral part of the program director's job and should not be slighted.

Volume II contains guidelines for the development of training materials for directors of cooperative education programs which reflect the considerations discussed in this chapter and in the previous chapter on general problems in planning and managing special programs and projects. 53

CHAPTER V

EVALUATING SPECIAL PROGRAMS AND PROJECTS

Education evaluation is rapidly emerging as a discipline of its own due to a number of factors. A variety of problems as well as approaches proliferate in the field as growing pangs naturally occur. Hence, below we describe the overall purposes of education evaluation, the reasons for its emergence at this time, typical categories of problems which have surfaced and general evaluation functions. Then, we discuss some of the specific problems as well as alternative solutions regarding evaluation of education programs.

PURPOSES OF EVALUATION IN EDUCATION

Education evaluation has two major purposes: a) to determine the extent to which the objectives of an education program are met; and b) to attempt to explain why such results occurred with the purpose of providing feedback for program improvement purposes. The emphasis upon the first purpose is often influenced by accountability pressures. The latter purpose should always be a priority in any evaluation. It is the former purpose of evaluation (sometimes called "product" evaluation) which tends to create anxieties, which are often unduly justified. The latter purpose of evaluation (also referred to as "process" evaluation or "formative" evaluation) is an integral part of project planning and management with program improvement intentions.

FACTORS CONTRIBUTING TO GROWTH OF EVALUATION

Education evaluation as a discipline has grown dramatically over the last two decades due to a number of reasons many of which are related.

First, the growth of evaluation generally can be attributed to the obligation to assess how well Federal and state funded education programs are succeeding. Generally speaking, its growth is highly correlated with the initial passage of the Elementary and Secondary Education Act and other directly related programs such as the Vocational Education Act, as amended, even though the time lag has varied among programs. As the growth of education programs funded by Federal agencies, particularly non-formula type programs such as ESEA Title I, reached their plateau in the early 70's, additional pressures to expand evaluation came from several forces: those who wanted to demonstrate the programs were successful and continue funding, from those who wanted to cut back programs, and/or from those who wanted to have explanations for both the success and failure of programs for policy formulation purposes. As an example of the heightened interest in evaluation on the part of Federal policy makers in Congress, the Education Amendements of 1974 mandated approximately $50 million to evaluate compensatory education alone. A similar heightened interest with congressional mandates has occurred in the area of vocational education, as described in detail later in this section.

Second, concurrent with the natural obligation to evaluate increased numbers of education programs came the pressures for accountability at all levels which further bolstered the demands for evaluations and in many cases to be conducted by independent third parties. In other instances where evaluations were conducted by school staff, requirements were made to have a third party conduct an independent and objective education program audit designed to assess the project and the evaluation design, certifying the degree to which the findings were indeed valid and reliable. In other instances, program and financial audits conducted by governmental agencies such as the Government Accounting Office further attenuated the recognition by districts that good evaluations tended to reduce the number of "surprises" and reduce the burdens associated with outside audits.

And last, a factor contributing not only to the growth but professionalism within evaluation were the initial findings during the late 60's which provided justification to question many of the "sacred cows" in education. For example, the Coleman study and subsequent re-analyses of data indicated that schools and the resources allocated to schools did not explain as many differences in student growth as did family related factors. Additional studies and evaluations of "successful programs" were for the most part inconsistent and the degree to which findings were generalizeable to schools across the country was certainly limited. Without doubt the focus upon questions related to "why" fostered the growth

of the social science research movement in this country. As an example of this growth, the U. S. Office of Education has increased its funding for evaluations of education programs from approximately $1.2 million in 1968 and to $24 million in 1975.

GENERIC APPROACHES TO EVALUATION

While the details of an evaluation design should always be unique, reflecting the specific characteristics of the particular project to be evaluated, there do exist several generic models as summarized below. An extremely useful reference which summarizes a much larger number of models for various types of application (e.g., curriculum, training, program) can be found in a recent book entitled, Contemporary Approaches to Program Evaluation authored by Dr. Sara Steele and published by Capitol Publications, Washington, D. C.

A. The Student Outcome Model

This model is designed to determine how well a specific number of students (referred to as the "target population") achieved predetermined objectives in a subject matter area as a result of a specific program or technique sometimes called an "intervention" or "treatment". Usually in this model there is some unit of comparison either in terms of a control group consisting of a number of similar students receiving a dissimilar treatment (usually the one regularly operated within the school or district). In other instances a unit of comparison may be the past performance of students; hence the comparison of the treatment is to expected

rates of learning or skill acquisition of the student or group. Perhaps the most common unit of comparison is determined by the use of nationally standardized norm-referenced tests which indicate how the target group compares to the national average. When the treatment or technique being tested such as in a pilot program occurs over a specific time period, in many instances the same instrument is administered on a pre-treatment basis and post-treatment basis to determine the net gain. Sometimes an attempt is made to explain why the students did or did not achieve their objectives or not as well as the control or comparison standard.

During the design and implementation phases several problems commonly arise as a Student Outcome Model is applied. These problems can include:

- Student objectives are not clearly defined and in those instances where they are the criteria for achieving the objectives are not specified. In other cases objectives may be unrealistically high or conservatively low.

- Instruments used to assess progress often lack reliability (i.e., do they give the same results each time they are administered) and validity (i.e., do they assess what is being conducted). These are often selected by individuals not familiar with the program or may be developed specifically for use in the program without any field testing. In other instances the conditions and procedures followed during the test administration differ from those described in a test manual.

- The analysis and use of test results are often inappropriate. A recent USOE publication titled A Practical Guide for Measuring Project Impact on Student Achievement (1975) identified eleven hazards in evaluating projects with student achievement as a major objective. Some of the most common "misuses"

are using such nationally normed tests to assess an individual student's performance, administering the test over a time period different from that used for national norming, and the use of grade equivalent units rather than standard scores or raw scores.

B. The Program Process Model

The program process model is designed to determine the degree to which a project meets all of its major and minor objectives and/or to determine the degree to which certain processes are associated with student outcomes or other output variables.

In the first instance, the Process Model is designed to evaluate the on-going implementation of a project and the specific task and activities which are conducted by project staff as well as others. Depending upon the nature of the project, the major process objectives may include assessment of events (i.e., whether a specific task was conducted on time) or activities (i.e., the use of resources to meet an event). In this Model the evaluation activities are very similar to the monitoring activities as described earlier in Chapter III. A prerequisite for an effective application of this model is a well documented project plan with specified tasks, activities, and events and individual assignments and responsibilities. Moreover, criteria for task completion must be specified.

The second function is usually conducted in conjunction with the Student Outcome Model since one is attempting to identify those specific processes which may be associated with (if not contribute to) the output variables. Rather than monitoring the

processes on an on-going basis the nature of the evaluation design may call for data collection of these processes through interviews, surveys, and/or observation of experimental effort or demonstration programs or pilot tests of certain techniques. The type of analysis which attempt to relate process variables (e.g., number of hours per day a student received a specific type of instruction) to outcome measures can be rather complex and sophisticated. The application of statistical techniques is used to draw inferences about the generalizeability of the results.

While the problems in implementing the model for the first purpose are essentially those associated with project monitoring, the nature and degree of problems associated with the latter function are rather numerous including:

- The overall design may not be comprehensive enough to capture all of the data on the most significant process variables thus resulting in limited or confusing findings.
- Instruments used to gather data may be limited in terms of reliability and validity thus limiting the findings also.
- The number of process variables analyzed may be so large compared with the sample or number of observations made that a number of findings may occur though as a result of chance.
- And in those instances where process variables are significantly related (as determined by statistical applications) the ability to determine the degree to which a specific variable contributed to the student outcome may be severely limited.

C. The Policy Evaluation Model

While the above two generic models could be classified as disciplinary research and evaluation models, a third generic model, the Policy Evaluation Model, is, as its name implies, designed to provide information useful for policy formulation. A difference in degree rather than kind, this model often involves many of the characteristics of the Process Model. While the Policy Model is sometimes applied at the district level, for the most part it is applied at the state and/or federal level to assess the results and effects of existing policies or to pilot test new programs. The general types of designs would include: a) a "planned variation" experiment where two or three treatments, which are designed to differ by specific dimensions, are pilot tested in a number of districts; b) large scale surveys which establish the status of existing programs and their impact; and c) evaluations of exemplary programs funded under a specific legislative title in an attempt to determine which processes are associated with successful programs.

In any of the above evaluations, there exists a number of common problem areas from the perspective of the program director:

- Areas of conflict arise between the design of the "imported" program and the district. In most instances criteria used for assessing program success will differ in kind if not in priority ranking, between federal, state agency, and the district. The rationale for involvement may differ significantly.

- The short term involvement in a pilot or experimental effort often results in staffing and continuity problems for the district and in certain instances public relations problems.

- The inflexibility of the superimposed evaluation design may require a degree of inflexibility which often conflicts with the operational ease of administering and implementing the program at the district level.

- And last, because of the problems noted above as perceived by the district, those confronted by the federal sponsor are often so major that either the evaluation design is erroded or the findings which result, in reality, reflect the ability of the agency to conduct the experiment rather than the technique being tested.

Very briefly then, increased priority will continue to be placed upon evaluation; rather than becoming more simple the proliferation of evaluation approaches and models will increasingly become more complex as attempts are made to determine causal relationships between program processes and outcomes or at least attempt to explain the success or failure of programs; and in turn those responsible for the operations of programs at the district level will increasingly have to become more familiar with, if not experienced in, the use of evaluation techniques.

GOALS OF EVALUATION

Earlier we described the two major purposes of evaluation. Here, we describe the specific goals of any evaluation task which necessarily differ among the various types of programs in education.

For the purposes below we have identified three general categories of special projects.

- Planning and development projects whose end product is a plan or a product (e.g., a curriculum) on which subsequent funding will be based;

- Experimental and demonstration projects whose primary purpose is to test and evaluate experiments which assess the use and value of materials, techniques, methods, etc.;

- Operational projects whose primary purpose is to carry out activities aimed at accomplishing specific educational objectives.

While each of the above projects may involve phases of the other (e.g., an operational project may be preceded by a planning project), we have identified a number of evaluation goals of the three categories to illustrate potential differences, as described in Figure 4.

FIGURE 4: GOALS OF EVALUATION

Planning and Development Projects	Experimental and Demonstration Projects	Operational Projects
To fulfill funding agency and other reporting requirements.	To fulfill funding agency and other reporting requirements.	To fulfill funding agency and other reporting requirements.
To improve the organization and implementation of subsequent planning/ developmental projects	To improve the design and implementation of subsequent E & D projects.	To improve the design and implementation of subsequent operational projects.
To maximize the adequacy and efficiency of subsequent tests and implementations.	To maximize the chances of incorporation of the project in the system if it is successful.	To maximize the effective application of resources in relation to continuing or changing needs.
To improve the selection of subsequent planning/ developmental projects.	To maximize replicability if project is successful.	

EVALUATION FUNCTIONS

Regardless of the specific goals of an evaluation design, there exists several functions to be provided by the person or persons responsible for conducting the evaluation. These functions are summarized below. However, the specific sequences may vary in light of several factors (i.e., whether the evaluation will be conducted internally or by an outside group). It is critical to note that specific evaluation functions need to be undertaken during the planning, preparation, and operational phases of a project.

A. Planning Phase

As noted earlier, one of the first evaluation functions is to conduct a needs assessment. Whether this function is filled by the chief planner in preparation of a proposal or by an evaluator is less important than the recognition that this function be fulfilled. As the program planning to develop a project to meet specified objectives is undertaken, several additional evaluation functions are required.

First, project information must be delineated. A number of factors must be considered at this time including:

- Are the objectives of the project clearly defined designating a target group, a behavior or condition to be brought about, the means for measuring performance and the conditions under which performance will be observed?
- Are the processes for accomplishing these objectives defined regarding who, when, how often, how much, how long, as well as intended results and criteria for completion?

- Have all objectives been reviewed and approved by participants?
- Has the target population been specified?
- Have the major milestone dates for project component activities been established?
- Does a monitoring system exist or is one being planned?

And, upon delineating project information, a key evaluation function is to assess the needs of the users of information emanating from the evaluation of the project -- specifically, who needs what information, for what purposes, when, and in what format. The users of evaluation information usually range from the funding agency (in the vast majority of cases) to individual teachers who may want to use information to improve the program. Since it is impossible to provide all information to all potential users, due to time and cost constraints, it will be necessary to negotiate priorities. Specific factors to be considered in determining user needs include:

- Minimum information and reporting requirements specified by the funding agency;
- The kinds of information sought or questions raised by various types of decision makers, their priorities, and when the information is needed;
- The possibility of conflict between (if not differences, in priority ranking) of criteria used to assess the project and those criteria used by decision makers;
- On-going information user needs prior to completion of the project.

The last evaluation function usually conducted during the planning phase of an overall project is the preparation of an

evaluation design. For each project objective there should be an evaluation objective. Similarly, project staff should agree upon the evaluation objectives. There should be an implementation plan for the evaluation design similar to the implementation plan for the overall project. In developing the evaluation design several additional factors must be taken into account, including:

- What is the primary unit of analysis -- the individual student, the classroom, the school, or other?
- Are instruments proposed to assess project success valid, reliable, and economically feasible to administer?
- What, if any, sampling should be considered regarding data collection? Can it be justified? Will sampling a limited number of persons affect those not sampled in a particular way?

Once the evaluation design has been developed in a preliminary way, two additional questions should be raised:

- Is the design technically sufficient, practical in terms of utility, and efficient in terms of cost and other resources necessary to implement it?
- Is there general agreement between those associated with the project that the evaluation will be relevant, important, credible, and comprehensive?

B. Preparation Phase

Once the evaluation design is completed and usually submitted as part of a proposal to the sponsoring agency and the project is approved, then a number of steps are required to be undertaken by the project director or the individual responsible for evaluation. Some common problems and revisions in difficult projects include:

- The need to reduce the number of evaluation objectives and to modify them due to changes of project objectives (typically proposals are overly ambitious and unrealistic in the number of accomplishments that they propose to make).

- Revising the evaluation budget due to overall budget reductions.

- Revision or selection of new instruments based on discussions and desires of the funding agency.

Second, usually at this stage of the project a decision has to be made whether or not the evaluation is to be conducted internally or whether it should be contracted out to an independent third party. In a large number of programs funded under Federal and state legislative titles provisions require that a third party evaluation be conducted. If this is the case, the project director is responsible for drafting a Request for Proposal based upon the evaluation design and submitting it to a number of potential bidders who in turn will respond with proposals. In other instances, an individual may have already been designated, in which case an evaluation contract is developed. It is critical that the specifications for the evaluation be developed by the project staff rather than asking the evaluator to develop his own design of evaluation. Several factors can create subsequent problems including:

- The lack of early involvement in the planning phase by the individual responsible for evaluation, a potential problem when evaluations are contracted out;

- Lack of coordination and division of labor between project staff and the evaluator which usually is a direct result of an inadequate overall management plan and the lack of specificity in the evaluation contract.

Third, a critical evaluation function is the obtaining and/or development of instruments to be used to collect data. In addition to ensuring that instruments are appropriate, relevant, valid, and reliable, other factors should be taken into account, including:

- The cost of obtaining and implementing the instrument, since there exists hidden costs in many cases (e.g., requirement to use the publisher's computer to score the results).
- The human resources and other costs to implement the instrument may be underestimated.

Fourth, depending upon the nature of the project and the evaluation design, the most critical is the training and scheduling of data collectors. Wherever possible, it is desirable that individuals already trained in the administration of specific instruments be used. However, this ideal situation does not always exist. A carefully designed and conducted training program perhaps is the most critical aspect of ensuring quality control over the overall data collection process. In many instances, especially where observation instruments are used, it is desirable to actually conduct observations on a pilot basis to ensure that there exists general agreement among observers, often referred to as interrater reliability. During training sessions it is often desirable to obtain information regarding individual data collector's schedules, since they may not be fulltime employees of the school and develop a tentative schedule.

The result of the preparation phase as far as evaluation activities are concerned is an evaluation apparatus to implement the overall evaluation design.

C. Implementation Phase

The major task during the implementation phase of an evaluation design are data collection, data processing, data analysis and reporting, and the development of recommendations including those for program improvement.

First, during the data collection phase a number of problems which could potentially erode the evaluation design often occur including:

- Logistical and rescheduling problems due to the unavailability of staff thus requiring contingency plans and opportunities for rescheduling; and
- Collection of incomplete data requiring personal or other follow-up since many evaluation techniques are based upon the assumption that data will be complete.

Second, once the data are collected a major evaluation function is the reduction and processing of data. In processing data a number of considerations must be taken into account:

- The need to reduce the number of times a particular piece of data is manipulated, thereby reducing the probability of human errors;
- The opportunity to have the data collectors reduce data as much as possible, a function which requires extreme quality control, however;
- Whether or not to use automated data processing which requires, once again, high quality control yet may be necessary due to the nature of the analysis to be used;

- Ensuring that the data are in an easily retrievable and accessible format for those conducting the analysis.

Third, the primary evaluation function involved here is the analysis and reporting of findings to decision makers in a useable format on a timely basis. As noted earlier, a number of analytical techniques can be used; moreover, the opportunity to use additional techniques is often afforded when the data are processed through use of automated mechanisms and/or computers. Findings may be presented in a rather raw form; in most instances, however, especially when sampling is used, the application of statistical techniques is required to draw inferences regarding the generalizeability of the findings and the "statistical significance" of the results. Once the data are analyzed a report or a number of reports usually are developed, taking into account:

- The specific amount of time users of the information and decision makers will have to make judgements thereby requiring executive summaries;
- Whether or not to develop a number of separate and differently formatted summaries for various types of audiences such as the general public and/or individual teachers.

And last, depending upon the nature of the project, a major evaluation function is to provide feedback and follow-up to various users of the information. Or in the event that the specific project is to have a subsequent phase, the evaluator should be involved in the planning for that phase where possible to ensure some degree of continuity and program formulation based upon previous findings.

CHAPTER VI

AN EVALUATION MODEL FOR COOPERATIVE EDUCATION

Cooperative education needs an evaluation model which can be molded to fit the needs of a variety of program types and program settings. The model must be equally useful for distributive education, office occupations, industrial and trade occupations programs and other subject areas and combinations of subject areas; for large cities and rural areas; for secondary and post-secondary schools; for standard classes and classes for students with special needs. The model must allow for input on evaluation questions from all concerned groups -- students, parents, teachers, administrators, employers, labor representatives, community groups, and advisory councils. It must be sufficiently straightforward and practical that cooperative education program directors with limited resources at their disposal will find it realistic and useful. Yet, it must also provide for the use of sufficiently sophisticated techniques so that evaluation questions concerning the progress and outcome of instruction, and the relationship of program components to outcomes, can be answered.

The model described in the following pages, referred to as the Cooperative Education Evaluation Model, meets these requirements. This model, based on a general evaluation model developed

by Fink and Kosecoff[1], has three features that distinguish it from other models and make it especially appropriate to cooperative education programs:

1. Responsiveness to a program's needs -- the evaluation model has been specifically designed so that it can be molded to fit the requirements of every program no matter how unique they are. There are no mandatory evaluation phases or stages, and no present evaluation designs or information analysis methods. Instead, the model advocates the completion of a series of activities that are coordinated to answer clients' evaluation questions. Thus, with this model, the shape of an evaluation is entirely dependent upon the purposes and nature of the program and is never imposed on it.

2. Provisions for checks and balances -- because of the importance of clients' evaluation questions to this model, each major category of evaluation activity begins and ends with reference to previous activities and to the need for consultation with the client to ensure that his/her needs are being met.

3. Action and practical orientation -- the model has been developed so that the evaluation can provide timely, relevant, and accurate information that can readily be used. This is done by providing the framework for including the client in the formation of the evaluation and the monitoring of its progress and quality.

Evaluation is defined here as "a set of procedures used to appraise a program's merit and to provide information about the nature and quality of a program's goals, outcomes, impact, and costs". There are two contexts in which evaluations can be conducted using the Cooperative Education Evaluation Model. In the first context, an evaluation is conducted to <u>improve</u> a program and the evaluation's clients are typically the program's

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[1]Arlene Fink and Jacqueline Kosecoff. <u>An Evaluation Primer</u>. (In press)

organizers and staff. In the second context, an evaluation is conducted to certify a program; here, the evaluation's clients are typically the program's sponsors.

The context for an evaluation is determined by the information needs of the individuals and agencies who must use the evaluation information. An evaluation is performed in an improvement context when the evaluation's clients are concerned with finding out precisely where a change would make the program better. Usually, the organizers of a still-developing cooperative education program require this kind of information so that they can modify and improve the program. On the other hand, an evaluation is conducted in a certification context when the evaluation's clients are particularly concerned with determining the extent to which the program's overall quality can be guaranteed. Those individuals who sponsored program development, or who are interested in using the program, require this kind of information about a completed program's outcomes, impact, and costs. In addition, in a certification context, the evaluator frequently assumes a more global and independent perspective than in an improvement context.

The evaluation activities are organized into six major categories:

1. Selecting evaluation questions,
2. Organizing information collection,
3. Collecting information,

4. Planning and implementing data analysis,

5. Reporting information,

6. Managing evaluation activities.

Chapter VIII contains an explication of each of these six categories of evaluation activities including an overview of each, a list of criteria for implementation, and a list of cautions regarding common problems encountered.

Chapter IX contains an example of instructional materials based on Component 1: Selecting Evaluation Questions.

CHAPTER VII

Planning/Management

A. Guidelines for Content on Planning Management

B. Checklist on Planning Management

A. Guidelines for Content on Planning and Management

In previous chapters we identified general purposes and techniques for planning and managing special educational programs and projects and discussed problems specific to the planning and management of cooperative education programs. This section contains guidelines for the content of training materials for cooperative education program directors on the topics of planning and management based on the concepts contained in those earlier chapters. The planning-management task is seen as a continuum, which is divided for convenience into the following phases: planning, preparation, implementation, and completion. For each of these phases there is a brief discussion of considerations which contribute to success and a list of common problems. A checklist covering all of the phases is included at the end of the section.

1. Planning phase

Good planning is probably the most important single feature of a successful cooperative education program. If the goals and objectives have been appropriately selected and defined and the management plan has been well constructed, the program can proceed smoothly. If these first crucial tasks are not properly handled, it is extremely difficult to make up for the lack later in the course of the program.

Considerations in Successful Planning

The planner should:

1. Gather information on desired goals and objectives from all interested groups including students, parents, teachers, administrators, employers, labor representatives, community groups and advisory councils. Involve all interested groups, and particularly employers who will be providing the work stations, in the planning from the start.

2. Think through the theoretical and practical implications of each selected goal or objective, particularly those related to job placement.

3. Derive and clearly define a set of student outcome objectives which can reasonably be expected to be accomplished with the time and resources available. Use best possible information on labor market projections and availability of good work stations.

4. For each student outcome objective define:

a. what tasks and activities will be undertaken to accomplish the objective

b. what criteria will be used for judging to what extent the objective has been achieved.

5. Define program process objectives or milestones and the time by which each will be accomplished.

6. Define the responsibilities of each staff member. Define the responsibilities of all participants.

7. Using the above information, write a management plan, including a flow chart, which shows time/task relationships and responsible personnel.

8. Design and build in the program evaluation from the beginning, making it an integral part of the management plan.

9. Review the plan with appropriate staff and other interested parties.

Common Planning Problems

1. It may be difficult to achieve concensus on student outcome objectives because of the differing viewpoints of the varied interested groups.

2. Some objectives which are desired may be difficult to measure, complicating the development of criteria by which to judge their accomplishment.

3. Budget constraints, lack of qualified staff, or lack of sufficient work experience stations may force a scaling-down of objectives and activities.

4. It may be difficult to achieve consensus on the program process objectives and the management plan because of differing viewpoints on the part of key staff.

2. Preparation phase

After formal plans have been made, the program director must see to it that all components of the program are in place and ready to go. This is an important phase in itself and should not be short-changed in terms of time and resources allowed for its accomplishment.

Considerations in Successful Preparation for the Program

The cooperative education program director should be sure that the following tasks have been accomplished before beginning the actual implementation of the program:

1. Confirm commitments from employers and all others involved in the program. If modifications are necessary, be sure proper actions have been taken.

2. Issue final schedules for students, staff, employers.

3. Confirm that agreements with employers and students are in proper order. Confirm that all parties understand the training agreements and that all questions of privacy rules have been dealt with and written permission for access to student data obtained.

4. Brief the advisory council and other interested parties on program plans.

5. Confirm that a system for collecting data needed for program management and evaluation is in place.

Common Problems in the Preparation Phase

1. Work that the director assumed was done has not been done or has not been adequately done.

2. Last minute modifications have to be made because of changed circumstances.

3. Program implementation

If the planning and preparation phases have been carried out correctly, then the director's job in implementing the program is simplified considerably. The director's major concern should be to assure that activities are going as planned and to make modifications where changed circumstances or new information indicates that they should be made.

Considerations for Successful Implementation

The cooperative education program director should continually monitor the implementation of the program plan throughout the course of the year, including the following tasks:

1. Check actual accomplishment of tasks against the time/task outline in the management plan or flow chart.

2. Confirm that all needed data is being collected in usable form for management and evaluation purposes, including information on the usefulness of each work station; assessment of gaps in each student's readiness for employment; records of the development of each student's skills; information on the extent of coordination between work-site experiences and in-class instruction; placement and follow-up data.

3. Determine that information on problems within the program is reaching the director or other appropriate staff member and that proper corrective action is being taken.

4. Confirm that information about the progress of the program is reaching all appropriate parties including parents, advisory councils, community groups and others.

5. Confirm that the evaluation is proceeding as planned and that interim evaluation information is being used, where appropriate, to modify the program. For example, evaluation of a work site may have yielded information that the site is inappropriate for students. Those students then must be shifted to an alternative site.

Common Problems in Implementation

1. Delays occur in certain parts of the program.

2. Unpredictable problems force modification of the program plan in mid-year.

3. The flow of information from program participants to the director is inhibited, complicating the director's task in dealing with problems.

4. Program completion

At the end of the year a number of tasks must be done to assure proper documentation of the program, to lay the groundwork for the

following year's program, and, in those cases where outside funding sources require it, to provide a final report to the funding source.

Considerations for Program Completion

The cooperative education program director should:

1. Confirm that all the information necessary to document the program has been gathered and is properly filed.

2. Confirm that the evaluation is proceeding as planned.

3. Assure that preparation for a follow-up of graduates has been accomplished.

4. Confirm that the final report, if required, is being drafted and will be supplied to the sponsoring agency on time and in proper form.

5. Assure that preparations have been made for the conduct of a fiscal audit, if appropriate, including:

a) documentation of changes and approved contract modifications

b) updating and indexing files

c) storing for a possible audit in the future.

6. Assure that proper steps have been taken to inform advisory councils, parents, employers and community groups about program successes and future plans.

7. Begin planning for next year's program.

8. If the program is to be terminated, check that appropriate measures have been taken to terminate or reassign staff and to dispose of materials and equipment.

Common Problems at Program Completion

1. Information is not in proper order.

2. There is uncertainty about the future of the program because of funding or staffing problems.

B. Checklist for Planning and Managing Cooperative Education Programs

The following checklist contains questions that can serve as an aid in assessing planning and management procedures for cooperative education programs. The questions in the checklist are organized according to four phases or program operation: planning, preparation, implementation and completion. It should be noted that the questions may be modified, when necessary, to suit your program's unique needs and that questions may be added or deleted.

Question	Response Yes	No
A. Planning		
1. Has information been gathered on desired goals and objectives from all interested groups including students, parents, teachers, administrators, employers, labor representatives, community groups and advisory councils?	___	___
2. Have theoretical and practical implications been thought through concerning each selected goal or objective, particularly those related to job placement?	___	___
3. Have student outcome objectives been derived and clearly defined which can reasonably be expected to be accomplished with the time and resources available?	___	___
4. Have student outcome objectives been defined for:		
a) what tasks and activities will be undertaken to accomplish the objective	___	___
b) what criteria will be used for judging to what extent the objective has been achieved?	___	___

Question	Response Yes	No
5. Have program process objectives or milestones been defined and the time by which each will be accomplished?	___	___
6. Have the responsibilities of each staff member been defined?	___	___
7. Using the above information, has a management plan been written including a flow chart, which shows time/task relationships and responsible personnel?	___	___
8. Has the program evaluation been designed and built from the beginning, making it an integral part of the management plan?	___	___
9. Has the plan been reviewed with appropriate staff and other interested parties?	___	___
10. Has the program budget been reviewed to be sure that it is realistic in terms of activities to be undertaken and availability of resources?	___	___
B. Preparation		
1. Have commitments been confirmed from employers and all others involved in the program? If modifications are necessary, have proper actions been taken?	___	___
2. Have final schedules been issued for students, staff, employers?	___	___
3. Has it been confirmed that agreements with employers and students are in proper order?	___	___
4. Have the advisory council and other interested parties been briefed on program plans?	___	___
5. Has it been confirmed that a system for collecting data needed for program management and evaluation is in place?	___	___

Question	Response Yes	No
C. Program Implementation		
1. Has actual accomplishment of tasks been checked against the time/task outline in the management plan or flow chart?	___	___
2. Has it been confirmed that all needed data is being collected in usable form for management and evaluation purposes?	___	___
3. Has it been determined that information on problems within the program is reaching the director or other appropriate staff member and that proper corrective action is being taken?	___	___
4. Has it been confirmed that information about the progress of the program is reaching all appropriate parties including parents, advisory councils, community groups and others?	___	___
5. Has it been confirmed that the evalmation is proceeding as planned and that interim evaluation information is being used, where appropriate, to modify the program?	___	___
D. Program Completion		
1. Has it been confirmed that all the information necessary to document the program has been gathered and is properly filed?	___	___
2. Has it been confirmed that the evaluation is proceeding as planned?	___	___
3. Is it assured that preparations for a follow-up of graduates has been accomplished?	___	___
4. Has it been confirmed that the final report, if required, is being drafted and will be supplied to the sponsoring agency on time and in proper form?	___	___

Question	Response Yes	No
5. Is it assured that preparations have been made for the conduct of a fiscal audit, if appropriate, including:		
a) documentation of changes and approved contract modifications	—	—
b) updating and indexing files	—	—
c) storing for a possible audit in the future?	—	—
6. Is it assured that proper steps have been taken to inform advisory councils, parents, employers and community groups about program successes and future plans?	—	—
7. Has planning begun for next year's program?	—	—
8. If the program is to be terminated, has a check been made that appropriate measures have been taken to terminate or reassign staff and to dispose of materials and equipment?	—	—

CHAPTER VIII

Evaluation Model Components

A. Selection of Evaluation Questions

B. Organizing Information Collection

C. Collecting Information

D. Planning and Implementing Data Analysis

E. Reporting Information

F. Managing Evaluation Activities

G. Checklist

A. SELECTION OF EVALUATION QUESTIONS

Introduction

An effective evaluation results in timely and believable information that is useful in improving or certifying a program. To guarantee an evaluation's effectiveness, the evaluator must pose questions that are responsive to the needs of all concerned individuals. In formulating the questions, the evaluator must review the program's goals and activities and ascertain the kinds of information that will be acceptable as evidence of program success.

Considerations Involved in Selecting Evaluation Questions

To ensure a credible evaluation, the evaluator must:

1. Review the program's goals and activities.

When reviewing a program's goals and activities, the evaluator should become familiar with the interests and concerns of all groups who have a stake in the program and its evaluation; e.g., student, parents, employees, teacher, administrator, advisory committee members, and/or funding source.

2. Be responsive to the types of information that will be convincing as evidence of the program's success.

There are many different ways to prove that a program has been successful; e.g., that its goals have been achieved, that it was managed well, or that it had no negative effects. Some ways include records of successful placements of students in jobs,

successful performance of students on test of skills and testimony from program graduates, employers and parents.

3 Pose specific questions that the evaluation's audiences want answered.

Evaluation questions can take the following forms:

- To what extent were the program's goals achieved?
- Were the program's activities implemented as planned?
- How effective were these activities in achieving the goals?
- For which groups was the program most/least successful?
- What did the program cost?
- How well was the program managed?
- How did external and internal social and political forces influence the program's development and impact?
- What social and political effects did the program have on the environment in which it was implemented?

4. Make sure that those participating in the evaluation understand the procedures and products of the evaluation.

The evaluator must make sure that appropriate participants understand what an evaluation is, the reasons for conducting the particular evaluation, how evaluation information will be used, and that needed releases for use of information have been obtained from students or their parents where necessary.

Problems in Selecting Evaluation Questions

1. The evaluator may have difficulty in obtaining the cooperation of participants.

2. Access to the program's documents or staff for evaluation can be limited or not possible because of privacy regulations.

3. The program's goals may have been unclearly or not measurably stated, and/or the program's activities may be imprecisely described.

4. Different interest groups might be unwilling or unable to agree on the evaluation questions and on what will be acceptable as evidence of the program's success.

5. The evaluation questions might not be on target because:

- there are too many/too few
- they do not lend themselves to adequate answers, given time and money that are available.

B. ORGANIZING INFORMATION COLLECTION

Introduction

Planning an evaluation's information collection activities involves taking into account the evaluation questions, the information collection techniques, and the design strategy used to group and sample participants and to structure the data analysis.

Considerations Involved in Organization for Information Collection

1. Techniques used to collect evaluation information. There are a variety of techniques that can be used to collect evaluation information including interviews, questionnaires, rating scales, observations, record reviews, and achievement tests. Each has advantages and disadvantages, and the evaluator must determine which will yield the most reliable and valid information, given the inevitable constraints of time and money.

2. Design strategies used to group and sample participants. Frequently used design strategies for cooperative education programs should include case study designs; time series designs that compare the project population's gains with previous years' scores; and comparison group designs that include control groups, comparisons of gains over time with national norms, or comparison of gains when young people have a high level of involvement with the project activities with the gains achieved when they have a low level of involvement.

3. Sampling. Sampling guides the selection of persons to be used in the evaluation and the assignment of these persons to groups. The evaluator must determine whether some or all eligible students, teachers, employers, administrators, or advisory committee members will be included in the evaluation, and whether or not they will participate in the new or traditional program.

Problems in Organizing Information Collection

1. The schedules of a program's participants; e.g., employers and teachers; do not always coincide with the evaluation's schedule.

2. The most desired information collection techniques may not be the most reliable or valid, and they may be the most expensive.

3. The evaluator might prefer a particular design, but be unable to implement it because comparison groups are unavailable, data cannot be identified from previous years, etc.

4. Difficulties arise in obtaining information about eligible participants because of privacy regulations, inability to obtain participant cooperation, and mobility.

C. COLLECTING INFORMATION

Introduction

Collecting evaluation information is a large and complex task that has a direct bearing on the quality of the resulting evaluation information. Poor information collection instruments can yield invalid and possibly false information.

Considerations Involved in Successful Information Collection

1. Selecting, adapting, or developing instruments. The first step in collecting information for the evaluation of cooperative education programs involves the evaluator in selecting, adapting, or developing reliable and valid instruments to measure the effects of the program.

2. Hiring and Training Information Collectors. Information Collectors can be selected from the program staff itself, professional organizations, and the community. Once hired, collectors must undergo rigorous training.

3. Pilot testing information collection instruments and procedures. Before using information collection instruments and procedures, they should be pilot tested to help answer questions like:

- How accurate is the information obtained with the instruments (validity)?
- How consistent is the information obtained by the instruments (reliability)?

4. Conducting information collection. Information collection can mean obtaining "clearance," from agencies like the U. S. Office of Management and Budget (OMB) and informing participants of the purpose and nature of their cooperation.

5. Monitoring information collection. Information collection should be supervised to ensure that activities are being conducted correctly and that all necessary data are being gathered.

Problems in Information Collection

1. Difficulties arise in identifying validated instruments, and development is expensive or time-consuming.

2. The best information collectors are unavailable or too expensive to hire or train.

3. A pilot test can be too small or inadequately performed to provide reliable information.

4. It is sometimes difficult to allot the necessary amount of time for clearance (often several months) of newly-developed instruments, and validated ones are not available.

5. Once informed, eligible participants may withdraw from the evaluation.

6. Difficulties arise in obtaining the cooperation of participants.

7. Difficulties arise in collecting information from participants who move away or lose interest in the program after completing their formal participation in it.

D. PLANNING AND IMPLEMENTING DATA ANALYSIS

Introduction

The analysis of evaluation information is the process by which all the data obtained during the various information collection activities are summarized and synthesized to produce answers to evaluation questions. Analysis methods range from the statistics-based techniques used by psychologists and sociologists to the scholarship-based techniques often used by historians and anthropologists. All attempt to describe evaluation information in the form of tallies or measures of variation, and to explain evaluation information by identifying patterns and trends in events.

Considerations Involved in Successfully Planning and Implementing Data Analysis

1. Planning the data analysis. Analysis activities must be carefully planned to be technically appropriate, responsive to the evaluation questions, and, in turn, compatible with the design strategy and information collection techniques. The selection of specific analysis methods will usually be influenced by the evaluator's training and background and the resources available for the evaluation.

2. Conducting data analysis activities. Completion of analysis activities must include more than just the actual performance of the analysis. It must also involve:

- reducing the evaluation information to usable form
- pilot testing the information analysis activities
- conducting the analyses
- archiving the evaluation information.

Problems in Planning and Implementing Data Analysis

1. The evaluation questions are unclear, and it is difficult to tailor the analyses to them.

2. The evaluator's personal training or background influences him or her to accept an expensive or otherwise inappropriate analysis method.

3. The design strategy has been improperly selected or poorly implemented, or the information collection techniques are unreliable or invalid yielding uninterpretable results.

4. Too much information is collected, or it is badly reduced delaying the performance of the analyst's tasks.

5. Pilot testing can reveal the need to revise some or all analysis techniques because the wrong data were collected, they are insufficient to provide answers to the evaluation questions, etc.

E. REPORTING INFORMATION

Introduction

An evaluation report consists of the answers to some or all of the evaluation's questions and an explanation of the procedures used to derive the answers. The evaluation report, whether written or oral, informal or formal, is an official record of the evaluation. It is through the report that the evaluator makes public his or her activities and findings. Thus, it is essential that the evaluation's audience be given easy access to reports and that they be clearly written.

Considerations Involved in Successfully Reporting Information

To be credible, an evaluation report must be easily understood by all its readers or listeners, including parents, teachers, students, employers, advisory committee members, administrators, and funding agencies. In preparing the report, the evaluator should consider including the following:

- an introduction to the evaluation including its background, the evaluation questions, and limitations on the scope of the evaluation
- the collection of evaluation information including the design, sampling, information collection techniques, limitations on the information collection activities
- the methods used to analyze the data and their limitations
- the evaluation findings including answers to each evaluation question, interpretations, recommendations, and limitations on the findings
- management concerns like schedules and staff assignments.

The importance of each of these considerations will depend upon the nature of the program, the evaluation, and the purposes for which the evaluation report will be used.

Problems in Reporting Information

1. Technical matters are sometimes difficult to translate into terms that all appropriate audiences; e.g., students, employers and funding agencies; can understand without oversimplifying.

2. It is hard to assign priorities to the information so that only the most important is emphasized.

3. Reconstructing evaluation events can be difficult and time-consuming.

4. Because of the possibility that the evaluation's findings may be misinterpreted or taken out of context, the evaluator sometimes feels (or is pressured to feel) the need to distort findings.

5. Evaluation reports sometimes appear overly critical or too full of praise rather than providing a balanced view.

F. MANAGING EVALUATION ACTIVITIES

Introduction

Ability to manage and coordinate evaluation activities is essential, and at least some portion of the evaluator's time must be given to management. It is only through careful attention to schedules, tasks and budgeting that the evaluator can assure teachers, students, employers, parents, funding agencies, and advisory councils that they will get timely and usable answers to evaluation questions.

Considerations Involved in Successful Management

1. Establishing schedules. Evaluations are commissioned to be conducted within a given amount of time. To ensure the success of the effort, the evaluator must determine when each evaluation activity will take place, the sequence of the activities, and how long each one will take.

2. Assigning staff to activities. In order to assign staff to specific evaluation activities, the skills needed to perform each activity must be identified, so that the staff members with those skills can be assigned appropriately.

3. Budgeting. To prepare an evaluation's budget, the evaluator must weigh what needs to be done against the amount of money that is likely to be available. Invariably, activities, time allocations, and staff assignments are juggled during the development of the budget.

Problems Involved in Successfully Managing an Evaluation

1. There is never enough time or money to do the perfect evaluation!

2. Trained staff may be difficult to find.

G. CHECKLIST

The following checklist contains questions that can serve as the basis for evaluating the effectiveness of a cooperative education program. The questions on the checklist are organized according to the six categories that comprise the Cooperative Education Model. It should be noted that the questions may be modified, when necessary, to suit your program's unique needs, or that questions may be added or deleted.

Question	Response Yes	No
1. Have the interests and concerns of the school employers, student-trainees, graduates, teachers, parents, advisory committee members and/or funding agencies been reviewed?	___	___
2. Have participants been asked to suggest the types of evidence they will accept as proof of the program's merit?	___	___
3. Have evaluation questions been identified that relate to the program's objectives, activities, costs and social, educational, and political impacts?	___	___

Question	Response Yes	No
4. Have information collection techniques been identified that will provide valid and reliable information about attitudes, performance, skill or knowledge?	___	___
5. Has an evaluation design been formulated that will permit comparisons of the program's gains over time or between performance in the program and national norms or among degrees of student involvement in the program?	___	___
6. Should sampling be used to select students, employers, parents and administrators for participation in the evaluation, or to assign some or all to different groups?	___	___
7. Can reliable and valid instruments like achievement and performance tests, observations, rating and ranking scales, questionnaire survey forms, interview schedules, and record review forms be purchased and used without modification?	___	___
Adapted to meet the program's needs?	___	___
Specially developed for the program?	___	___
8. Are information collectors available for hiring and training?	___	___

Question	Response Yes	No
9. Have provisions been made to pilot test and validate information collection procedures and instruments?	—	—
10. Have "clearance" and privacy regulations been observed?	—	—
11. Have quality control or monitoring procedures for data gathering and management been specified?	—	—
12. Have analysis methods been chosen that are technically excellent and appropriate for providing answers to the evaluation questions?	—	—
13. Have procedures been developed for reducing the evaluation information?	—	—
14. Have strategies been devised for pilot testing the information analysis activities?	—	—
15. Are staff, time, and money available for conducting the planned analysis?	—	—
16. Are the results of the analysis interpreted to within the scope of the available information?	—	—

	Question	Response Yes	No
17.	Are plans made for filing and storing information for possible future use?	—	—
18.	Is the report designed so that parents, teachers, administrators, employers, and funding agencies can read it and use the information in it?	—	—
19.	Does the report contain the answers to the evaluation questions?	—	—
20.	Does the report explain clearly and in sufficient detail an explanation of the procedures used to arrive at the answers to the evaluation questions?	—	—
21.	Is the evaluation being conducted according to schedule?	—	—
22.	Have the appropriate staff been assigned so that each evaluation task is likely to be completed?	—	—
23.	Has the evaluation budget been designed so that the evaluation questions can all be answered?	—	—
24.	Has sufficient time been allocated for the accomplishment of each evaluation task?	—	—

CHAPTER IX

Format/Samples

A. Format for Instructional Materials

B. Sample Materials

A. FORMAT FOR INSTRUCTIONAL MATERIALS

1. State objectives of instruction

The local administrator and staff should be provided with a statement of the objectives of instruction. The objectives should be stated in relatively specific terms, although they need not always be behavioral. Behavioral objectives are frequently difficult to write, time-consuming, and they sometimes result in focusing attention to somewhat trivial types of learning. However, they do help to clarify the intent of instruction. Thus, judgment should be used in determining just how specific an objective must be in order to clearly communicate the instructor's intent.

Typical objectives might be:

- to identify the considerations involved in selecting evaluation questions
- to list common types of evaluation questions.

The purpose of providing the objectives is to give the administrator a precise overview of the contents.

2. Organize and sequence content so that it is likely to facilitate achievement of the objectives.

Information about evaluation activities should be presented so that the local administrator is provided with definitions, explanations, and examples of all ideas as they relate to each objective of instruction. It is often helpful to rely upon an

outline that lists each objective in the order in which it should be taught.

3. Provide review questions.

Short questions should be offered to help the local administrator review important ideas presented in the materials.

4. Provide practice exercises and feedback.

Practice exercises should be used as a vehicle for opportunities to solve the problems they are likely to encounter in evaluating their programs. Feedback to each exercise should be given.

B. SAMPLE MATERIALS

Objectives

Each cooperative education program is unique. In order to determine a program's effectiveness, a variety of questions can be asked about its goals, outcomes, impacts and costs. The major purpose of this chapter is to enable administrators of cooperative education programs to:

(1) Systematically review the program's goals and activities as a basis for framing evaluation questions

(2) Select and suggest the types of information that will be convincing to those concerned with the program as evidence of the program's success

(3) Pose evaluation questions that are consistent with the needs and concerns of the school, employers, students, parents, advisory committee, and funding agencies.

Introduction

To be effective, an evaluation must be credible to its audiences. That is, it must be believable to and usable by schools, teachers, students, employers, advisory committee members, and funding agencies. To ensure credibility, an evaluation must:

1. Review the program's goals and activities.

When reviewing a program's goals and activities, the evaluator should become familiar with the interests and concerns of all groups who have a stake in the program.

2. Be responsive to the types of information that will be convincing as evidence of the program's success.

There are many different ways to prove that a program has been successful; e.g., that its goals have been achieved or that it was managed well. The evaluator is responsible for determining which of these kinds of information will provide the most believable evidence of the program's success to the individuals who must use the evaluation's findings.

3. Pose specific questions that the evaluation's audiences want answered.

The evaluator must be responsive to the audience's information needs. To do this, evaluations should be designed to give answers to questions of concern and to provide information about program success.

4. Make sure that those participating in the evaluation understand its procedures and products.

The evaluator must make sure that participants understand what an evaluation is, why it is being conducted, and how evaluation information will be presented.

The Evaluator's Description of the Program

A credible evaluation incorporates into it the evaluator's knowledge of the program and the types of information that provide evidence of the program's success. The Evaluator's Description is a convenient form for the evaluator to use for recording and summarizing information about a cooperative education program's goals, the activities to be undertaken to achieve those goals, and

the types of evidence that must be provided to establish that each program goal has been achieved. An illustration of an Evaluator's Description Form follows:

Form 1: Evaluator's Description

Goals	Activities	Evidence of Program Success
(One by one, describe the goals the program, or a component of it, is aiming to achieve.)	(For each goal, describe the program activities that will lead to the fulfillment of the goal.)	(For each goal, describe the type of information that will be convincing evidence of program merit.)

Columns 1 and 2 of the Evaluator's Description: "Goals" and "Activities"

A program goal is a statement of intent. An activity is a means of achieving a goal. In completing the Evaluator's Description, the evaluator must describe the one or more activities that are planned to accomplish each goal. The goals and activities columns of an Evaluator's Description could take the following form for a component of a cooperative education program:

Evaluator's Description of a Cooperative Office Education Program (COE)

Goals	Activities	Evidence of Program Success
1. Upon completion of the program, the students will have mastered basic office procedures	1a. Study standard office procedures in related class 1b. Observe and participate in procedures at work station	

Some programs carefully delineate their goals and activities and the relationship they share. Unfortunately, not all programs

contain clear and complete statements of their goals and activities, and relationships between goals and activities are often difficult to determine. In the latter case, the evaluator must use experience and logic to extract clarified goals and activities.

The evaluator's job in formulating program goals and activities is to state them in such a manner that:

- all important components of the program are represented
- each goal has one or more activities associated with it
- the priority of the goals is made clear
- the resulting number of goals and activities is manageable for evaluation purposes

Review Questions

1. List four criteria for ensuring a credible evaluation.
2. What is meant by a program's "goals"? Its "activities"?
3. What are the three components of the Evaluator's Description?

Column 3 of The Evaluator's Description: Evidence of Program Success

In column 3, the types of information that are acceptable as evidence of a program's success should be summarized. If the evaluator is only interested in one component of a cooperative education program, say its health occupations component, then the evaluator would just have to concentrate on gathering evidence of success for that single component.

A program is successful if its goals are attained; if its activities achieve these goals and are at the same time inherently

beneficial; and there are no unpleasant consequences associated with the program. The actual evidence that a program is successful will take the form of statements, events, objects, and observations that testify to its quality. For example, in an office occupations component of a cooperative education program that has as one of its goals to improve typing skills, credible evidence of success might include any or all the following:

- a measured gain in students' typing skills
- an observed gain in students' typing skills
- testimony from student-trainees that their skills have improved
- testimony from parents that their children's skills have improved
- testimony from teachers that their students' skills have improved
- testimony from employers that student-trainees' skills have improved

At least one indication of program success must be identified for each program goal and activity. For example, in a program in auto body repair, the evidence of program success may be illustrated as follows:

Evaluator's Description of a Program
in Auto Body Repair

Goals	Activities	Evidence of Program Success
1. the student will be able to estimate damage and compute labor and material costs	1a. practice estimation of damages on damaged cars brought into shop	1a. Students can consistently estimate damages within acceptable error limits.
	1b. practice computation of labor and material costs in related class	1b. Students can demonstrate ability to compute labor and material costs.

To be believable, the information that would be convincing evidence of the program's success should be developed cooperatively with as many concerned persons as possible in advance of the evaluation. Finding out what will convince students or employers, for instance, of the program's success is an extremely important component of a credible evaluation because it directs the evaluator

to identify the information that must be produced, and it forces the evaluation's participants to state in truthful and realistic terms what they really want to know about the program. Agreeing on evidence can be a very important safeguard for both the evaluator and the participants because it protects against assertions that the evaluation findings are not relevant or not sufficient to prove the program's success or failure, and it protects the participant against the evaluator's arbitrarily collecting information claimed to be "good" or "important."

Completing the Evaluator's Description

The first draft of the Evaluator's Description is best prepared by the evaluator working alone, basing his or her ideas on knowledge of the program and a thorough review of the program's documentation. (No matter how well a program administrator may know a program it is still advisable to check perceptions with the written word.) A program's documents, it should be noted, vary greatly from program to program with respect to their number, quality, and format. Some new programs may only have planning memos or outlines and perhaps a proposal. Other, more established programs, may have volumes of reports. Every attempt must be made to use whatever documents are available to extract a list of program goals and activities. This list should be considered a first effort at developing the Evaluator's Description, and sometimes remain incomplete. It will, however, provide the evaluator with a sense of the program's direction, aims, comprehensiveness, and content. Further, it will facilitate subsequent discussions

with participants by providing everyone with a uniform framework and vocabulary to use for understanding the evaluation.

Upon completion, a preliminary draft of the Evaluator's Description should be shown to a sample of the evaluation's participants for review and amendments. Depending upon the nature, purpose, and size of the program, this document will undergo as many changes as necessary to satisfy all persons concerned.

Once the evaluator has a complete description of the program's goals, activities, and evidence of success, and the description has been accepted by the evaluation's participants as a basis for the evaluation, then the Evaluation's Description is complete. The final version of the Evaluator's Description should be typed and made available to all individuals who participated in its development.

Review Question

What types of evidence might convince all potential participants that the following possible cooperative education goals have been met:

- Can follow both written and verbal directions
- Shows a great deal of initiative
- Develop in the student individual qualifications for subsequent full time employment or advanced study.

The Evaluation Questions

Evaluation questions can take the following general forms:

(1) To what extent were the program's goals achieved?

(2) Were the program's activities implemented as planned?

(3) How effective were these activities in achieving the goals?

(4) For which groups was the program most/least successful?

(5) How did internal and external social and political factors influence the program's development and impact?

(6) What social and political effects did the program have on the environment in which it was implemented?

(7) What did the program cost?

(8) How well was the program managed?

The evaluation questions that will be of concern will vary: in one evaluation, the questions might only be related to the program's goals and activities, while in another, they might focus only on costs. In any case, the number of questions that can be answered depends upon the money, time, and resources available for evaluation.

The evaluation questions are the heart of the evaluation, and all evaluation activities must be organized so that they can be answered efficiently. Because of the importance of the questions, the evaluation's client should agree to their selection and statement.

Formulating the Evaluation Questions

The foundation for the evaluation questions should be the program success column of the Evaluator's Description. Consider

the excerpted Evaluator's Description for the program in auto body repair given on page 40. From the "evidence of program success" column, the evaluator could extract three specific evaluation questions, based on the larger one: can students consistently estimate damage and compute costs?

1. Are the estimates made by students within an acceptable error range?
2. Are the students' computations of labor costs correct?
3. Are the students' computations of cost of material correct?

For many evaluations, particularly those with small budgets conducted in an improvement context, evaluation questions can be drawn directly from the program success column. However, additional evaluation questions may also be asked. For example, for the same auto body repair program, the following questions could be important:

1. Which student-trainees profited most from the program? Which ones profited least?
2. How effective would the program be if its funds were reduced by 20%?

In some evaluations, the school, students, parents, employers, and evaluator have no difficulties working together to arrive at the evaluation questions and these people's cooperation is assured throughout. In others, some or all questions may have been posed well in advance of the actual evaluation, say at the time of program planning. In this situation, the evaluator should check to see that the questions are still thought to be important, and that no new ones need to be added. Finally, the evaluation

questions are sometimes fixed in advance, say by the legislation creating cooperative education programs, and although the evaluator may choose to make additions, he or she is bound to at least answer the mandated ones.

Regardless of the origin of the questions, the evaluator should get approval of the completed list of evaluation questions. Thus, once a preliminary draft is available it should be sent for a review that should serve to:

- add or delete questions
- establish priorities for questions
- limit or enlarge the number of questions
- check that all questions can be addressed within the time period, given the resources available.

Review Questions

1. List 8 general evaluation questions.
2. Explain why the proposed final draft of evaluation questions should be submitted for review.

A Note on Field Testing the Evaluation Handbook

To be effective, preliminary versions of all instructional materials should be tried out with a sample of administrators of cooperative education and their staffs to help determine whether the instructional objectives are clearly and appropriately stated, the sequence and organization of content are correct, and the practice exercises and feedback are worthwhile.

EXERCISE

Directions:

In this exercise, you are given a portion of a conversation among an evaluator, a teacher-coordinator, and an employer concerning a cooperative education program in architectural drafting. These three individuals are discussing possible evaluation questions. Your task is to compile a written list of evaluation questions based on the conversation.

Write your answers on the remainder of this page. The conversation can be found on the next page.

Evaluation Questions
(Write answers below)

Conversation

Evaluator

The purpose of this meeting is to discuss evaluation questions for the architectural drafting program.

Teacher-Coordinator

I have been thinking about some questions. They are:

1. Can students describe the company pay policies at their work sites?
2. Can students explain the organization of the firm in which they are employed?

Employer

I don't think the second question is a good one. Some companies in the program are very large, and their structure and organization are complicated. This is true of our firm. If the student remains with us for an extended period of time, the question might become important. Therefore, I think the first question is a much more important one for an entry-level employee. Let me add three questions which deal with the student-trainee's skills:

1. Can students make accurate ink drawings?
2. How efficiently and accurately do students use drafting tools?
3. How neatly and rapidly do students letter?

I would also like a question to be included that concerns students' attitudes toward improving the neatness of their work.

Teacher-Coordinator

At our last meeting you asked a question about whether employees are familiar with the insurance needed to protect the student-trainee, which I think is very important and would like to keep. I would also like to suggest a question concerning whether or not the classroom materials provided by the cooperative education office contain clear statements of purposes that student-trainees can easily understand. Some of the materials I've reviewed rely on very long lists of objectives that use complicated words.

Evaluator

I will attempt to revise the questions according to your suggestions, but I am afraid that our budget might not allow us to go through all the instructional materials at the cooperative education office, and I might therefore have to take the question off the list. In the meantime, I will keep it and notify you if any changes are necessary.

Answers to Exercise

Evaluation Questions

1. Can students describe company pay policies?
2. Can students make accurate ink drawings?
3. How efficiently and accurately do students use drafting tools?
4. How neatly and rapidly do students letter?
5. To what extent have students' attitudes changed with respect to improving the neatness of their work?
6. Are employers familiar with the insurance needed to protect students?
7. Do classroom materials contain statements of purposes that students can easily understand?

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